Impendle Municipality

INTEGRATED DEVELOPMENT PLAN REVIEW

JUNE 2010

DRAFT IDP 30/03/10

Private bag X 512
Impendle
3227

Tel: 033 996 0771
Fax: 033 996 0330
Enquiries: Mr K Zulu

VOL 2

IMPENDLE MUNICIPALITY

SPATIAL DEVELOPMENT MANAGEMENT PLAN

-FINAL DRAFT-

FEBRUARY 2010

CONTENTS

CHAPTER ONE: EVALUATION & INTERPRETATION OF ISSUES 4

1.1 Overview 4

1.2 Fundamentals: Link between Location, Economy & Environment 4

1.3 Key Issues - General 4

1.4 Key Issues Specific to Impendle Municipality 5

1.4.1 Underpinning principles 5

1.4.2 Specific issues 6

1.5 Community Issues 7

CHAPTER TWO: CONCEPTUAL FRAMEWORK 9

2.1 Introduction 9

2.2 Accessibility 9

2.2.1 Context 9

2.2.2 The concept of accessibility 10

2.2.3 Concepts of Landscape 13

2.3 Sustainability 14

2.4 Spatial Vision & Objectives....16
2.4.1 Municipal Vision - IDP....16
2,4,2 Spatial, Economic and Environmental Vision & Objectives....17
2.4.3 Implications for the implementation of the vision....18
CHAPTER THREE: THE IMPENDLE SPATIAL FRAMEWORK....19
3.1 Current Spatial Form....19
3.2 Proposed Spatial Form....24
3.2.1 Landscape Layer....24
3.2.2 Environmental layer (non-negotiable and negotiable)....25
3.2.3 The Economic Land Use Framework....27
3.2.4 Tourism Framework....31
3.2.5 Business – Commercial Framework....36
3.2.6 The Accessibility Framework & Impendle....37
3.2.7 Accessibility: Corridors and nodes....41
3.2.8 Outline of the SDF....48
CHAPTER FOUR: PERFORMANCE CRITERIA....54
4.1 Environmental Sustainability - Indicators....54
4.2 Access / Spatial Sustainability - Indicators....57
4.3 Economic Sustainability - Indicators....57
4.4 Alignment....58
4.4.1 District and Local Municipal Alignment....58
4.4.2 National & Provincial Frameworks Alignment....62
CHAPTER FIVE: IMPLEMENTATION....64
5.1 Institutional Capacity – Management of the SDMP....64
5.1.1 Legal and policy directives....64
5.1.2 Institutional capacity....66

5.1.3 Systems and structures for the implementation of the SDMP 68
5.2 The Municipal LUMS Framework 70
5.2.1 Broad Principles and policies 70
5.2.2 Spatial design concepts urban areas (nodal development) 72
5.2.3 Rural Areas 110
5.3 General implementation issues 116
5.4 Financial Capacity 117
5.4.1 The Budget 117
5.4.2 Financial and other incentives – Ecosystem Goods & Services 118
5.5 Projects 123
5.5.1 General Projects per Framework 123
5.5.2 Projects for implementation of the management areas 126
5.6 Phasing Strategy – Strategic Projects 139
CHAPTER 6: MONITORING 140
6.1 Monitoring Implementation 140
CHAPTER 7: CONCLUSIONS 147

Annexure 1: Land Use and Economic Activity Matrix
Annexure 2: NSDP Principles
Annexure 3: Buffer Zone
Annexure 4: A3 Maps

CHAPTER ONE: EVALUATION & INTERPRETATION OF ISSUES

1.1 OVERVIEW

The integration phase of the study firstly needs to provide an interpretation of the issues identified in the Status Quo report. This evaluation will provide the basis for the formulation of a 'Vision' for the SDF derived from that generated in the IDP. It will also be used to identify performance criteria and form the basis of the SDF for Impendle.

1.2 FUNDAMENTALS: LINK BETWEEN LOCATION, ECONOMY & ENVIRONMENT

This report has attempted to bring together the fundamentals for sound, sustainable development. It states, as a constant thread running through the different chapters of this report that Impendle Municipality, as with any municipal area in the country has to consider firstly, what are the natural materials and resources that it has to work with? Secondly, it has to consider how to make the best use of those resources so that it can create a viable economy which will employ its people and create wealth. Finally, it has to consider where to invest scarce financial and material resources to support its people and to support and encourage investment.

It is critical though, and this is emphasised in the report, that the use of its resources to create a viable economy cannot be done at the expense of the environment. Stewardship of the land has to be an integral concept to all the activities in the municipality so that it can ensure that future generations will continue to be able to earn a living in the area. A degraded or destroyed environment basically means a destroyed local economy. In the same way, any support services that the municipality (and all the other branches of government) establishes or installs as part of its mandate (water, energy supplies, sanitation, roads, social services and facilities, communications) must take cognisance of the need to take care of the land (stewardship) and invest wisely so that settlements are located where it is best suited for growth financially, economically, socially and perhaps most important, environmentally.

1.3 KEY ISSUES - GENERAL

The key issues that the municipality has to take into consideration, or that affect the municipality but are beyond its control are set out below.

Structural economic issue: the trend away from labour-intensive commerce and manufacturing which leaves an ever increasing problem of unemployment. This is a long-term issue which started decades ago and is a problem world-wide. It is therefore difficult to attain full-employment.

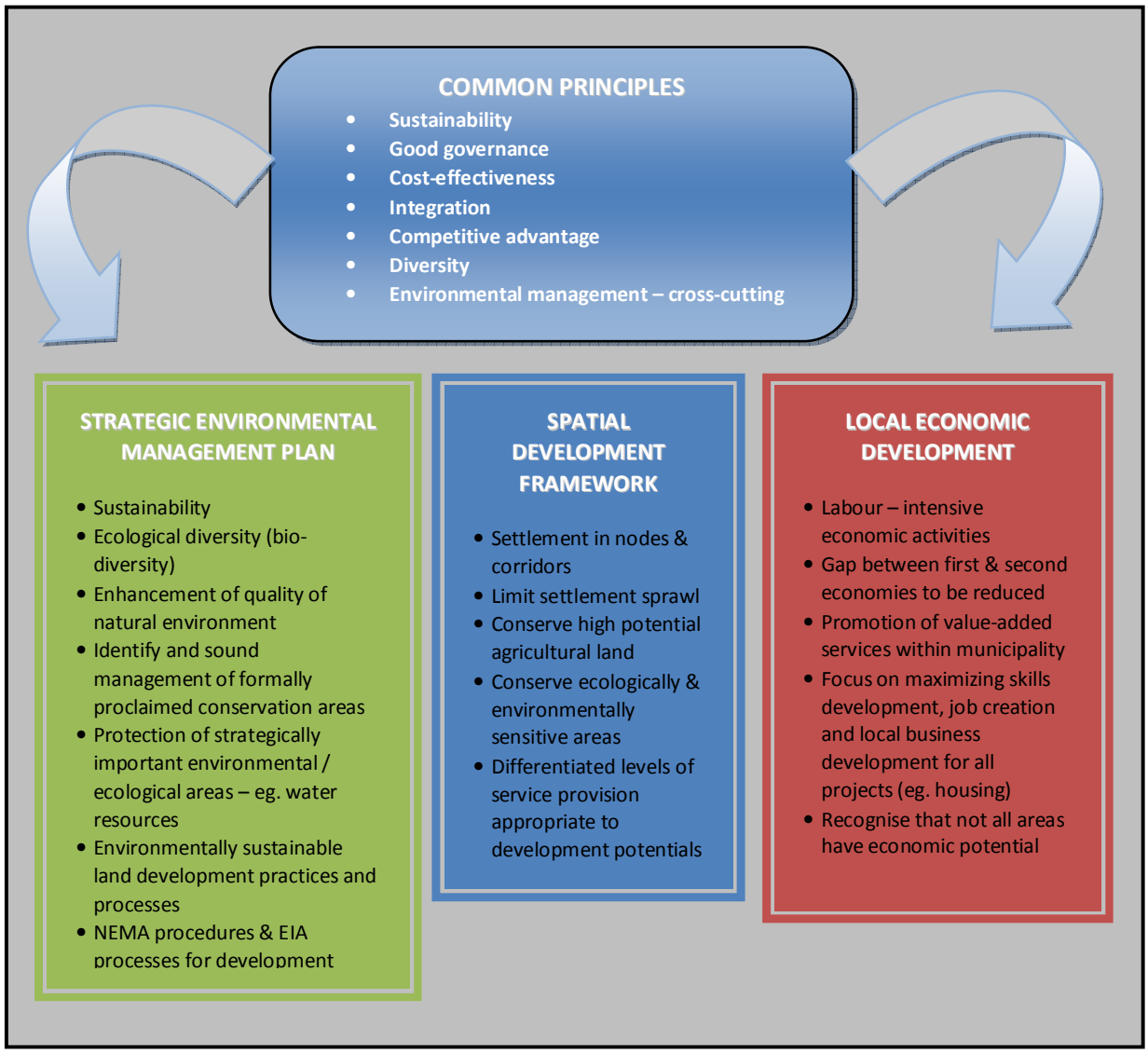
Climate change: this has many and wide-ranging implications, but in particular, could affect species diversity and the water production capabilities of areas such as Impendle which form such important water catchment areas for the district and Province.

1.4 KEY ISSUES SPECIFIC TO IMPENDLE MUNICIPALITY

1.4.1 Underpinning principles

The principles underpinning the SDF, LED and SEMP components are specified in sections 4.1 and 4.2 of the report. However, it is important that they are re-emphasised at this point. The diagram below summarises these principles.

Figure 1: Principles that underpin the SDMP (SDF / LED / SEMP)


COMMON PRINCIPLES
Sustainability
Good governance
Cost-effectiveness
Integration
Competitive advantage
Diversity
Environmental management – cross-cutting
STRATEGIC ENVIRONMENTAL MANAGEMENT PLAN
Sustainability
Ecological diversity (bio-diversity)
Enhancement of quality of natural environment
Identify and sound management of formally proclaimed conservation areas
Protection of strategically important environmental / ecological areas – eg. water resources
Environmentally sustainable land development practices and processes
NEMA procedures & EIA processes for development
SPATIAL DEVELOPMENT FRAMEWORK
Settlement in nodes & corridors
Limit settlement sprawl
Conserve high potential agricultural land
Conserve ecologically & environmentally sensitive areas
Differentiated levels of service provision appropriate to development potentials
LOCAL ECONOMIC DEVELOPMENT
Labour – intensive economic activities
Gap between first & second economies to be reduced
Promotion of value-added services within municipality
Focus on maximizing skills development, job creation and local business development for all projects (eg. housing)
Recognise that not all areas have economic potential

1.4.2 Specific issues

- The economy of Impendle is largely under-developed which brings both disadvantages as well as opportunities; the latter is because it does not yet have the pressures that an area with a strong economic development thrust has.

- Impendle has its western areas as part of the Ukhahlamba Drakensberg Park World Heritage Site, but is also largely a "buffer" to the Park. Therefore there are certain policy issues to take into consideration given that Impendle almost two-thirds of Impendle's area is within the buffer zone. This can be seen as an opportunity in terms of eco-tourism, but also poses a threat to the UDPWHS in terms of the settlement sprawl within the buffer zone.

- The importance of agriculture to the local economy as there are many proposals as well as ideas for diversification into such things as agri-tourism, but also to find particular niche markets, such as yellowwood woodlots with the potential to set up local agri-processing and industry which would be unique or special to Impendle.

- 91% of the municipality's land surface area comprises critically endangered (13%), endangered (18%) or vulnerable (60%) vegetation types. This is a large percentage and therefore the demarcation and appropriate management of these areas is critically important for the conservation of these vegetation types in KZN.

- Relatively low levels of transformation of vegetation / habitat make Impendle particularly important in terms of conservation and provide it with additional opportunities for eco-tourism

- Settlements and degradation are linked – buffer areas are needed to contain environmental degradation which includes greater risk of soil erosion and the spread of alien invasive vegetation species. Invasive aliens are a particular threat to water resources (see next point).

- The ecosystem services that Impendle provides, particularly water, are of fundamental importance both within the municipality itself and to the economy of the district and the Province. Impendle is the source of the Umgeni River and contributes to the Umkomaas River catchment, both major river catchments within the Province. The Drakensberg is the most important high altitude watershed in southern Africa in terms of water yield and Impendle's position gives it a considerable responsibility to maintain that water resource.

- There is a high dependence of rural settlement dwellers on natural resources – this leads to increased pressures and increases the likelihood of poor land management practices.

- Impendle only has 3% of the District population and is therefore not as "noticeable" as other municipalities within the district. This is a disadvantage and the municipality needs to ensure that its voice is heard at district and provincial forums.

- Impendle's position has meant that it has largely been bypassed by tourists and commercial interests who are either focused on Pietermaritzburg and the Midlands (Midlands Meander) or are on route to the southern Drakensberg and only see Impendle as a signpost on the road. Yet the area has a considerable natural asset base and the fact that this has gone mainly unrecognized does give the residents of the municipality an opportunity to direct development (mainly tourism and agriculture)

in a way which can take advantage of its resources by providing a niche or unique angle. This has already been recognised as a potential (the Ecoversity and Wellness Centre Business Plan as well as through the various LED strategies (2004 and 2007). It is now left to implement the plans and strategies, keeping to the principles that should govern development – the spatial, environmental and economic principles. Impendle cannot compete in the same market place that more established towns and routes can. It needs to find its own flavour and develop a recognizable character that will make it a destination, and not just a point on a road to somewhere else. The kind of "flavour" that Impendle can enhance is based on its relatively untransformed environments, and on a future vision that recognises the challenge of climate change and the importance of looking to alternatives in energy supplies, building technologies and moving away from chemical dependent agriculture.

- The economic strategies should focus on nodal development and the retention of the natural resource base because of the strategic importance of ecosystem goods and services in Impendle.
- The spatial framework should be based on the existing SDF with the addition of the planned upgrading of a new corridor route (as identified in the PSEDS) through Impendle from the Eastern Cape to the N3 at Nottingham Road; in other words, retain the framework of nodes and corridors, encouraging settlement growth only in those areas which conform to the accessibility framework and make sense economically and do not compromise environmental integrity.

1.5 COMMUNITY ISSUES

It is one thing to take conceptual spatial frameworks and see how these apply to a particular area such as Impendle, but this must also be put in the context of how local residents view their place in relation to the local region, to the district and within KZN. In short, what kind of spatial vision is generated when looking at regional and district concepts and constraints, as well as the desired spatial vision from local residents' perspective.

A number of workshops were held with local residents through the ward committees during the process of drawing up the SDMP. While the results of this is detailed in the Annexure on Public Participation in the Status Quo Report, it is important to get a sense of what could generate a vision based on input from local residents. The Figure below provides that perspective, through summarising the main points raised at community workshops.

Figure 2: Community perceptions of Impendle

SPATIAL	The location of Impendle in relation to the district & region is perceived by residents to be an issue related to their relative lack of development. They feel that they are isolated from the mainstream of activities, even recognising that the District SDF links other municipalities but does not say much about Impendle and corridor links through to Lesotho and other areas. Road access and the poor quality of roads is a major issue for local residents, particularly in relation to the effect such poor road conditions, and poor road maintenance have on public transport. They also talked of "putting people" in places where there is poor or no access. There was a specific issue mentioned on **land reform** concerning settlements that have become established on privately owned land which are difficult to service or develop until the land is acquired or formalised; and also that land needs to be set aside for commercial cultivation which will involve looking at landownership issues
ENVIRONMENTAL	There is a recognition that the natural resources of Impendle help sustain water provision and that

	they provide for natural resources which can be used by the community. There is also a recognition that the natural resources and views in Impendle, because of the Drakensberg, can attract tourists and provide for another economic opportunity.
ECONOMIC	**General :** A feeling was expressed that the demarcation of Impendle has "deliberately deprived" it of access to economic development. They felt that the current spatial plan gives the impression that Impendle does not have the potential for anything and that it discourages development in every sense. They feel left out of the mainstream of economic activities. **Agriculture as one of the focus areas of economic development:** there is a sense from the meetings that people feel that much more could be done to develop the agricultural resources in the municipality which has fertile soils and good water supplies. It was recognised however, that people do have negative attitudes towards agriculture and that funding for agricultural development was a major stumbling block. **Tourism as the other main focus area for economic development:** it was recognised that Impendle has underutilised tourism assets. They identified several current places & activities that could become tourist attractions. **Commercial development within Impendle:** this was a strongly felt issue – that Impendle has very limited commercial development which means costly trips out of the area to larger centres, including Pietermaritzburg, in order to access even some basic goods and services. One of the issues related to this is the leakage of income from Impendle to other areas because there is so little available in terms of wholesale / retail facilities and services in Impendle. Linked to this is the lack of banking facilities in the municipality. There is a feasibility study underway for a shopping centre, but currently, commercial development is very limited.
GENERAL	There were additional issues mentioned by the community that do not have spatial implications, but which do have an indirect affect on land use management and therefore, spatial form. These were: **Government services poorly represented:** a "lack" of government services was cited as a problem for the municipality; a multi-purpose centre was seen as one way to try and encourage government offices to locate in the area **Management at municipal level:** this was mentioned in several contexts – the need to have a clear strategy and sound management to improve LED initiatives; a shortage of skills and capacity within the municipality; safekeeping of important records within the municipality; enforcement of bylaws and ensuring data storage and access survives staff changes

CHAPTER TWO: CONCEPTUAL FRAMEWORK

2.1 INTRODUCTION

Preparation of the spatial development framework for Impendle involves creating a conceptual framework within which the SDF can be fashioned. The key components of the conceptual framework are based on an understanding of the nature of the place which makes up Impendle. The challenges arising from that understanding relate to the human condition and the importance of the natural resources upon which they depend not only to sustain them, but also to sustain bio-diversity in the wider region.

In the review of what makes up Impendle issues such as harsh living conditions, poor accessibility, unemployment lack of services are at the top of the scale of need. At the same time survival strategies in harsh conditions serve to threaten the very basis of survival due to the tendency for over exploitation in areas and on resources which cannot sustain such pressures.

The role of the SDF in this context is to identify ways in which a balance can be achieved between the need to uplift and sustain communities whilst at the same time not diminishing the value of natural resources to the point where real poverty overtakes the people and the region.

This report draws on the spatial, social, economic and environmental findings of the earlier phases of the project and uses the information to create a spatial framework that effectively optimizes development potentials whilst minimizing environmental risks. This is achieved by striking a dynamic balance between improving access to a wide range of opportunities but within clearly defined sustainability parameters.

2.2 ACCESSIBILITY

2.2.1 Context

In order to contextualize the Impendle SDF, reference is made to the Rural Human Settlements project (PPDC, 2007[1]) which provided an accessibility framework for the province of KwaZulu-Natal.

A spatial development framework is intended to structure investment to have the greatest positive impact from investment over time. The idea of developing a provincial spatial development framework (PSDF) is to[2]:

- generate a broader and greater set of opportunities; and,
- provide greater access to these opportunities on a sustainable basis.

The current settlement patterns in KwaZulu-Natal demonstrate the influence of public transport routes on settlement, particularly where two or more transport corridors intersect. This also applies in areas closer to the large towns where there are higher levels of social and infrastructural services. It makes sense therefore,

[1] PPDC, 2007, Assessment of Rural Human Settlements in KZN, unpublished report, January 2007
[2] DLGTA internal working document, 2006

to enhance the transportation or road network across the province as a basic building block from which people will make their own choices and opportunities – to live closer to those opportunities or to utilise the improved accessibility from the rural areas to centres for daily work, service and shopping purposes. The intention is that a PSDF will "create a spatial system of accessibility in which existing opportunities are made more accessible to the majority of the population, and a new pattern of clustered opportunities and special places is created"[3].

2.2.2 The concept of accessibility

On the basis of PSEDS and "The Core Concept" (DLGTA 2005), one of the key concepts applied in this component of the project (SDF) in Impendle relates to public transportation[4]. This is particularly pertinent to the people of this area owing to high levels of poverty, unemployment and poor access to services and opportunities. As noted in the literature "…lines of transportation channel large flows of people". They represent lines of high accessibility. Therefore, they are ideal locations for government and small business to reach the people with services they provide. They are also logical lines of investment in utility services and settlements naturally develop around these routes. Stopping points, where routes intersect, are of great significance because market economies happen in public places. Lines of public transportation and investment in infrastructure, therefore, are the basic building blocks of the province.

The aim in formulating the Impendle SDF is to use these building blocks to create a spatial system of accessibility (Figures 2 and 3) in which:

- existing opportunities are made more accessible to the majority of the population;
- a new pattern of clustered opportunities and special places is created.

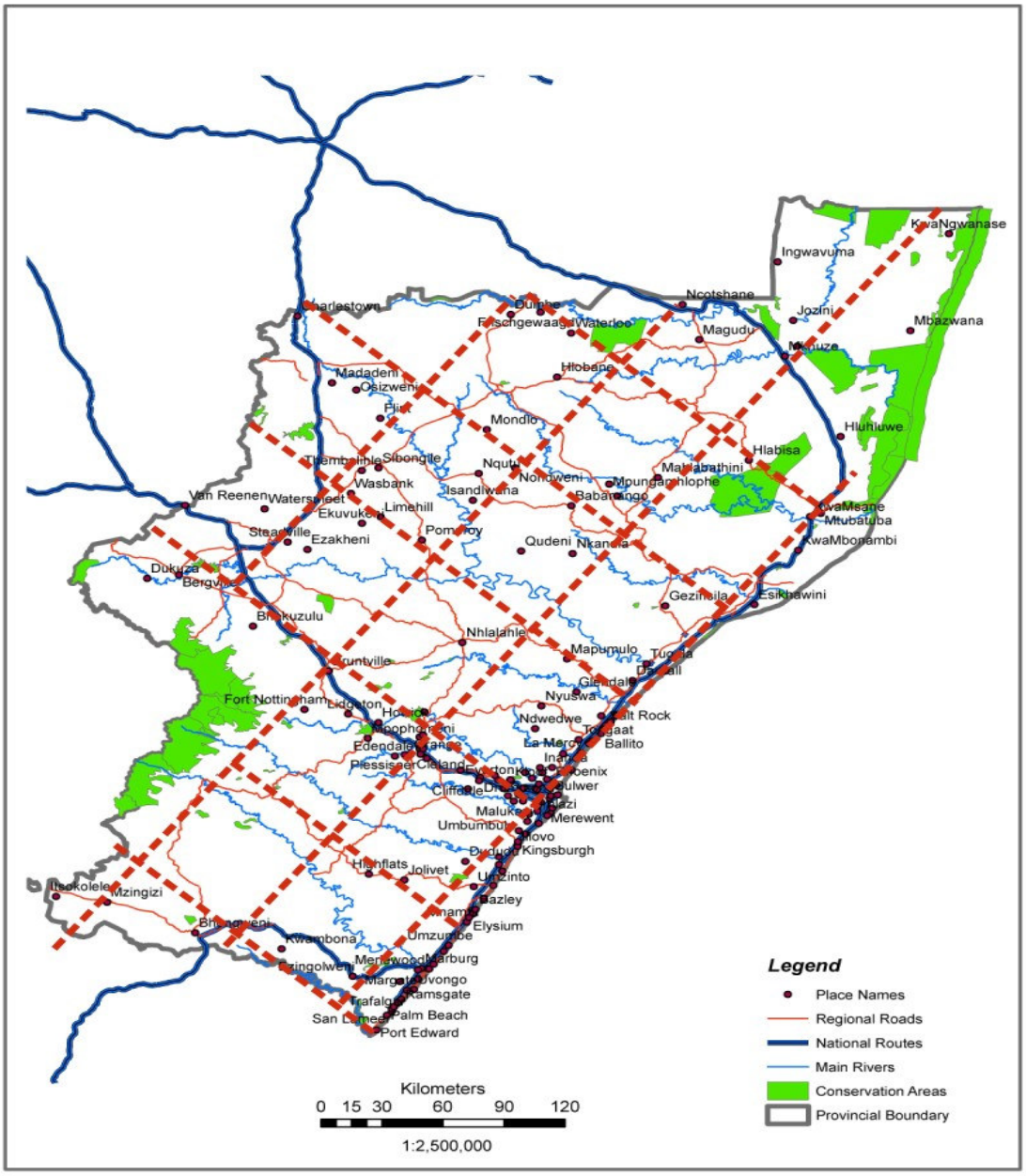
The following extract of the Human Rural Settlements project (2007), sponsored by the PPDC, provides a succinct overview of the conceptual framework associated with what has been termed the Access Driven Approach to spatial planning. This is deemed necessary in order to provide a provincial level context within which Impendle can be located. The aim of this contextual location is in turn to clarify the role and function of Impendle in the provincial context. This in turn will inform the SDF that is being developed for Impendle.

The first step in the Access Driven Approach[5] lies in dividing the province into desired zones of accessibility, lines of public transport and investment. This involves extending an approximately 80km grid throughout the province. The framework that is suggested for the "accessibility lines" on this grid is one of high accessibility (national road routes), intermediate accessibility (key district roads), and lower accessibility routes (district roads and connectors). This has translated into a 'desired zones of accessibility' grid that can be superimposed across the province of 80km, 40km and 20km access grid lines. This grid can then be categorized into four distinct types or "models" (Figure 3) which describe the type of area in terms of land use and economy. These are the more urbanised metro and coastal areas in the east, the tribal hinterlands, the World Heritage sites in the west and north-east and an area of limited opportunity based on specific nodes of development in the north-west.

Each zone in the grid contains movement corridors and surrounding space. This concept of a grid of accessibility can be used as a tool against which to measure the individual district and local municipal spatial frameworks. Its usefulness is that it:

[3] DLGTA, 2006, ibid
[4] ibid.
[5] ibid.

Figure 3: Accessibility Grid - KZN[6]

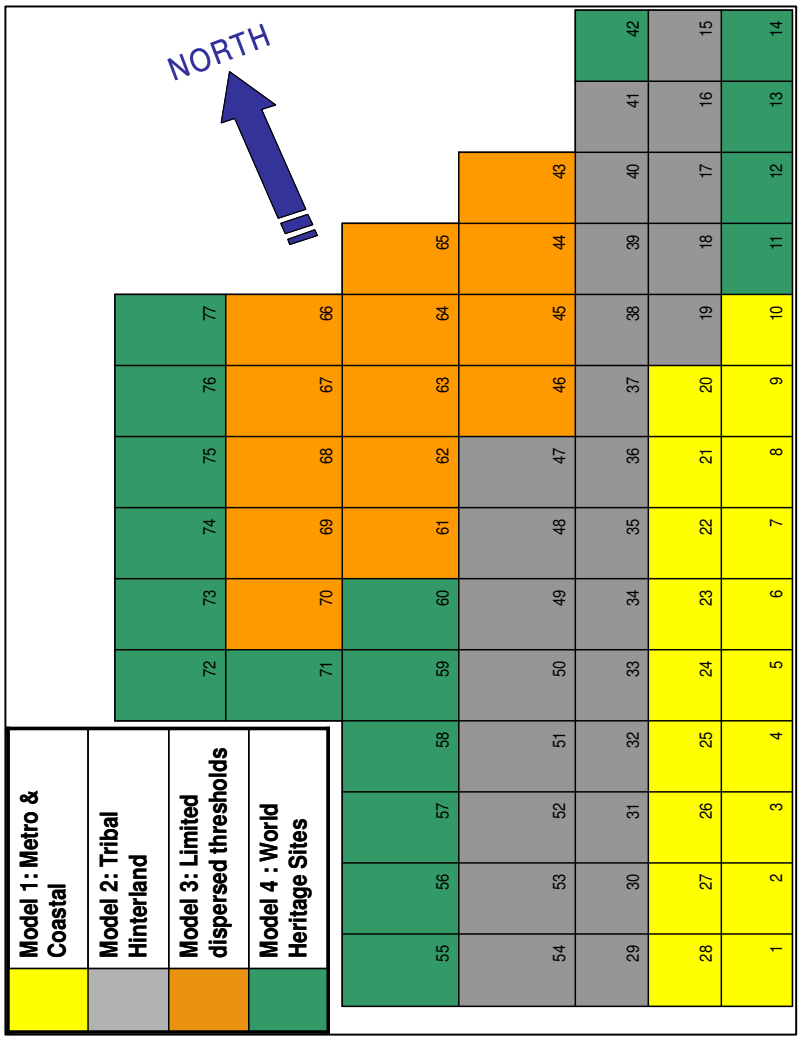


- provides a provincial context for all the local spatial development frameworks;
- provides a clearer view of how spatial development frameworks of adjacent local municipalities should link up;
- provides context not only to the grid lines, but also to the spaces between those grids;

[6] PPDC, 2007, Assessment of Rural Human Settlements in KwaZulu-Natal, p.52

- provides the basis for identifying the different land use and economic activities that are taking place in Municipalities in the province (see Annexure 1: Land Use and Economic Activity Matrix);
- provides municipalities with a basis that can be used to view settlements in terms of appropriate on-grid investment as opposed to off-grid investments. This "investment logic" tool should prevent high levels of investment going into areas which by looking at their position on the grid, are likely to generate little or no multiplier effects.

Figure 4: Location and application of Models(concept diagram of KZN)


NORTH
Model 1: Metro & Coastal
Model 2: Tribal Hinterland
Model 3: Limited dispersed thresholds
Model 4 : World Heritage Sites

A second step in the spatial framework involves establishing a desired hierarchy of public transport needs. This is necessary in order to establish public transport investment lines. In the Rural Human Settlements analysis this involved establishing the functionality of each part of the grid in the province and then assigning a model to it in terms of the most appropriate principles to apply in planning for public transportation in areas of that nature. Four models were identified and took into account the spatial planning principles contained in the NSDP, PSEDS, ASGISA and the African Renaissance Roads programme. These principles are summarised below:

- Reinforce primary corridor development based on economic development principles contained in the PGDS and NSDP;
- Promote industrial development along primary corridors and investigate the 'old' industrial decentralisation points with the view to revitalising where appropriate;
- Promote the agrarian revolution identified in ASGISA and PGDS particularly in traditional and state land areas through identification and development of prime land and linkage with processing and marketing opportunities in primary corridors;
- Encourage tourism development by improved access to predetermined nodes in the province which form the gateways to areas with conservation and wilderness significance (eg. Drakensberg, greater St Lucia Wetland Park);
- Identify and promote projects with national significance such as the eDube Trade Port.

Depending upon location in the province and functionality of each area in relation to Annexure 1 the principles contained in the relevant model could be applied in spatial planning terms.

The final step identified in the Core Concept document involves reconciliation between the desired accessibility grid and the intrinsic character of the land and its existing patterns of activity and investment.

2.2.3 Concepts of Landscape

Dewar and Louw[7] identify three distinct landscapes: urban, rural and wilderness. The balance between these three elements essentially provides that "sense of place" that people experience and identify with.

The issue that dominates most areas in KZN, and is certainly applicable to Impendle, is that settlement formation and growth is destroying this balance. "The urban is seen as the dynamic element and it spreads out like a cancer, devouring all rural and wilderness landscapes in its path"[8]. Dewar and Louw say that the challenge is to change the perception and see rural and wilderness landscapes as positive and that they should inform the pattern of urban or settlement growth.

The form and function of these landscape types needs to be recognised and defined more clearly[9]. Instead, there is the growth of settlements spreading out tentacles into what were rural landscapes, but are now neither urban or rural. People living there cannot make a living out of rural, agricultural pursuits – the land holdings are too small and under too much pressure from humans and in some places, their livestock. They are also not living in an urban environment with all the amenities that that should provide. For one thing, the scattered nature of the settlement means thresholds are too low and it is too expensive to provide the level of amenities typical of an urban lifestyle. This sprawl of settlement is difficult to manage and often creates serious and sometimes irreversible negative effects on the natural environmental systems that are necessary to sustain life.

The concept of landscape therefore, while seeming to be a slightly intangible, psychological feeling or sense of place, can be directly linked to the underlying health of the natural systems we rely on – land, water and air. Once that sense of place is lost, whether it is an urban, rural or a wilderness landscape, it is an almost certain indicator that there are some serious problems which if not addressed, will affect the long-term sustainability of all who live there or depend on that environment.

The incorporation of landscape into spatial planning at sub-regional level is gaining importance as the emphasis on sustainable development has increased internationally (Eco Assessments 2007[10]). Allied to landscape are visual and sense of place assessments which are linked with projects and plans where landscape character and the associated visual quality is in question. The importance of landscape and visual impact is linked to the sensitivity of the affected landscape. It is noted by Eco Assessments (2007, pg 10) that

---

[7] Dewar, D. and Louw, Defining Limits on Settlement Expansion: The Issue of the Urban Edge, Provincial Spatial Planning Guideline 5, July 2009, KZN Department of Local Government & Traditional Affairs, p.3

[8] ibid

[9] This introduces the concept of an "urban edge" which is necessary to define and so preserve the distinct landscape types (also referred to as "settlement edge" given the rural nature of Impendle as a whole.

[10] Eco Assessments, 2007, Eskom Master Plan Central Region – Draft SEA, vol 3, appendices

"…by combining magnitude and sensitivity in a systematic approach, consistent conclusions on impact significance can be drawn". In order to assess impact it is necessary to define landscape character. In this context it may broadly be defined as a distinct and recognizable pattern of elements that occur consistently in a particular type of landscape. Characterisation involves identifying areas of distinctive character and classifying and mapping them in terms of both character types and location.

Given the scale and importance of the Drakensberg in Impendle as a water production area as well as a major tourism attraction, with significant economic opportunities for the local economy, landscape management guidelines are required to preserve and protect this natural heritage. Guidelines will result from a full landscape character assessment of the lower, middle and upper areas of the Drakensberg on the South African side. It is understood that some assessment has been undertaken in KwaSani and it proposed that this should be extended along the foot of the mountains through Impendle to Umgeni and Mooi-Mpofana to complete the characterisation in the southern Drakensberg.

2.3 SUSTAINABILITY

The concept of sustainability in terms of this SDMP draws a very clear link between people and their natural environment, termed socio-ecological integrity. This is described as: "*To establish and maintain the long term integrity of socio-biophysical systems that protect the irreplaceable life support systems on which human well-being depends; a key issue comprises sustainable rural livelihoods*" (p.12, Status Quo Report). It therefore cuts across all three plans: spatial, environmental and economic.

It is therefore argued that the sustainability of rural communities is essential to the local economy of this Municipality and the sub-region. Whilst rural households may not generate substantial direct income from their subsistence activities, there are many indirect economic benefits which serve to sustain them as part of their risk management strategy. To demonstrate the importance of subsistence incomes, if the rural people in Impendle were to be located in townships around established towns in the sub-region those Municipalities would have to pick up the full deficit in direct and indirect incomes in the form of services provision, welfare grants, medical services and employment.

Thus it may be argued that sustainable management of the bio-diversity of the rural areas is critical to the well being of the local people. In addition much of the landscape is such that it will over time attract an increasing number of tourists to the area. This in turn could be used by local people and the Municipality to generate additional revenue. Finally the upper catchments (quaternaries) of the Maloti-Drakensberg are critical to water production and supply to the economy of the Province (agriculture, industry and domestic consumption. The notion of a Catchment Agency charging end users for water to manage and maintain the catchment is established in law (Water Resources Act) and once operationalised will contribute to improving the conditions of local people in Municipalities such as Impendle.

A further consideration that needs to be taken into account in sustaining bio-diversity as core generators of resources for current and future generations is that these are not generally recognized as high income generating resources (eg oxygen, water, wood etc), but nonetheless are critical to the sustainability of humankind as we know it today. In this context, monetary value may be attributed to biodiversity assets as part of economic goods and services. This has the potential to be used as a mechanism for demonstrating the value of these resources to society as presently structured. The concept of assigning value and then trading value in monetary terms between high value areas and the lower value areas with carbon footprint

indexes as the means of exchange is gaining currency. This could in future be used as a mechanism for financing local people to manage areas of bio-diversity significance for sustainability purposes.

Consequently sustainable management of the use of natural resources in Impendle together with access forms the basis for the point of departure in this project.

The basis of the importance of sustainability is the land; making sure that the natural environment is not degraded and that where urban or agricultural land use practices transform the environment, this transformation is managed in such a way as to ensure that those land use practices can continue into the long-term future through safeguarding the regionally important role the municipality plays in terms of its water resources (water), carbon storage and sequestration; and ensuring that the habitats that local plant and animal species require to survive, are conserved and thrive into the future.

In summary, it is *"A 'systems approach' to sustainable development [which] acknowledges non-negotiable ecological thresholds, the need to maintain our stock of natural capital over time and the employment of a precautionary principle in our approach. This approach also recognises that our systems of governance underpin the social, economic and ecological systems*" (p. 13, Status Quo Report).

This sustainability concept will thus require Impendle to consider:

Environmental sustainability

i. No-go areas which are non-negotiable and require full protection from development or any kind of transformation

ii. Areas which are environmentally sensitive which already have development of some kind, but which require careful management of the existing land use activities with strong discouragement of additional growth or intensification of development

iii. Areas which are not developed, fall outside of the no-go areas, but which still require careful planning and management of any proposed developments due to environmental sensitivities or constraints (eg. carrying capacity, slope)

Economic sustainability

iv. Ensuring that investment is directed towards nodes that are likely to survive and strengthen because of their position in terms of accessibility to goods and resources beyond Impendle, as well as local accessibility for the residents

v. The converse is ensuring that scarce resources are not put in areas which are not sustainable economically, or where there should be no development for environmental reasons. This should be viewed in the same light as "over-capitalising" a property; in other words, the resources spent in an area should be commensurate with the level of development that is sustainable and not exceed potential "levels of return

vi. Generating economies of scale in terms of market opportunities to encourage entrepreneurs to establish in Impendle and residents to spend more of their income locally

Spatial sustainability

vii. To ensure that the accessibility grid is developed and maintained so that the flows of goods and services is efficient and cost-effective

viii. To ensure that settlement is contained within urban edges to prevent excessive and expensive service supply lines; this is to make the best use of capital investment as well as to make longer term maintenance efficient and possible for what is a relatively small and under-resourced municipality.

2.4 SPATIAL VISION & OBJECTIVES

2.4.1 Municipal Vision - IDP

Before defining the spatial vision for the municipality it is important to note the 2009/10 vision for Impendle Municipality as expressed in its IDP:

> *"By the year 2017, the Impendle municipality would have provided the majority of the people and households in Impendle with sustainable access to their social and economic development needs and basic services in a fully integrated manner and within a safe and healthy environment."*

The mission as expressed in the IDP is shown below:

> *Impendle municipality will strive for the realization of the vision through its integrated development plan and the Batho Pele principles by:*
> - *facilitating delivery of appropriate services and community facilities within acceptable norms and standards*
> - *creating sustainable job opportunities and facilitating growth in the local economy*
> - *creating opportunities for self-advancement for previously disadvantaged members of the community*
> - *facilitating environmentally sustainable development and enhancement of the quality of the environment*
> - *building sufficient capacity for the efficient and effective implementation of local governance duties and functions*

2,4,2 Spatial, Economic and Environmental Vision & Objectives

The spatial, environmental and economic vision for Impendle, based on a mix of community expectations and an understanding of the realistic opportunities and constraints based on the location of the municipality can be expressed as follows:

> *The long term spatial vision for Impendle is to manage the spatial form of its human settlements and activities in a manner that preserves environmental integrity, while promoting local economic development in a way which recognises that it is only through careful stewardship of the natural resource base which will allow future generations to continue to live and work sustainably within the municipality"*

The spatial, environmental and economic objectives for Impendle municipality are to:

i. Place Impendle more firmly on the accessibility grid through the improvement of link routes through the municipality

ii. Contain settlement within urban edges which will have the effect of increasing the cost-effectiveness of service supply, creating more sustainable environments for human settlement and for local economic development and most importantly, prevent encroachment into productive agricultural and natural environments which should be maintained for income generation and biodiversity purposes

iii. Promote land use management practices that take cognisance of Impendle's unique position as a critical water source and catchment area for the uMngeni River Catchment and the uMkomazi Rivers, both major water resources within the Province

iv. Promote healthy agricultural land use management practices and sound agricultural practices that will enhance Impendle's income through its agricultural outputs and ensure the sustainability of production from its agricultural lands in the long-term

v. Promote land use management practices that ensure the long term sustainability of the natural environment both in terms of prevention of degradation in for maintaining biodiversity; included in this objective is to maintain the approaches or buffer to the Ukuhlamba – Drakensberg Park World Heritage Site

vi. Promote land use management practices that will enhance both the natural and built environment making the municipality attractive to tourists and enable the establishment of a range of tourism opportunities.

vii. Ensure that the objectives can be implemented on the Ingonyama Trust land within the municipality

2.4.3 Implications for the implementation of the vision

The proximity of the World Heritage Site and the notion of buffers[11] introduced in the early 1970's aimed at protecting this asset (Maloti-Drakensberg) from destruction through progressive development is fundamental to the spatial vision. This means that higher level development and services will ultimately be "drained" out of the buffer zone, particularly those areas closest to the Drakensberg foothills. Those nodes identified in the "no development area" should be maintained as they are, with the basic level of services provided, but any expansion to be discouraged. This is supported by the Drakensberg policies as well as by the NSDP and the PSEDS. The incentive is therefore provided for people wanting higher order services and opportunities to move into the more accessible centres closer to the regional access route. All settlements within the buffer zone will have to be managed carefully and in the context of their location within the buffer area.

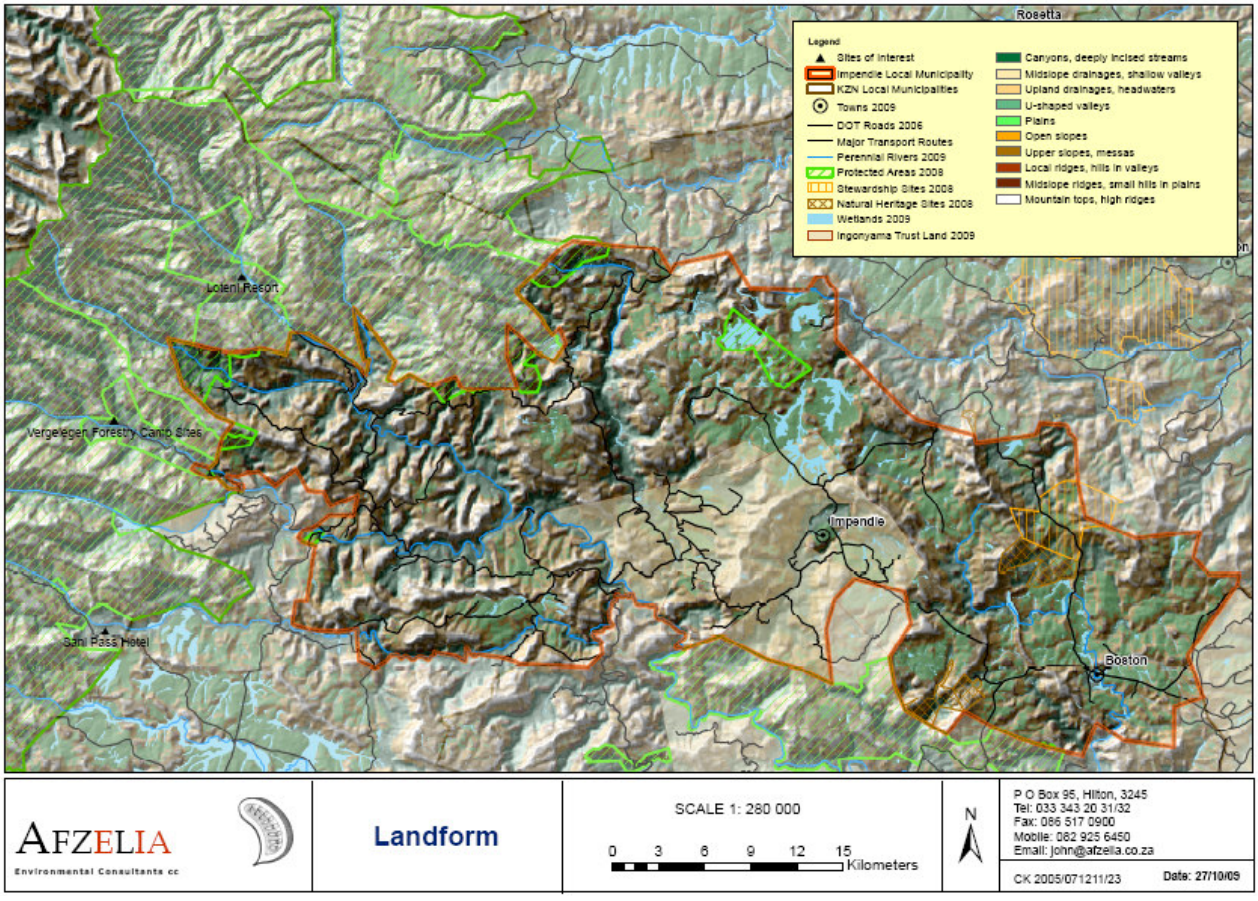
[11] See Annexure 3

CHAPTER THREE: THE IMPENDLE SPATIAL FRAMEWORK

3.1 CURRENT SPATIAL FORM

The current spatial form of Impendle Municipality is described in terms of its natural topography and environment as well as in terms of human settlement and activity.

Figure 5: Impendle Municipality Landform

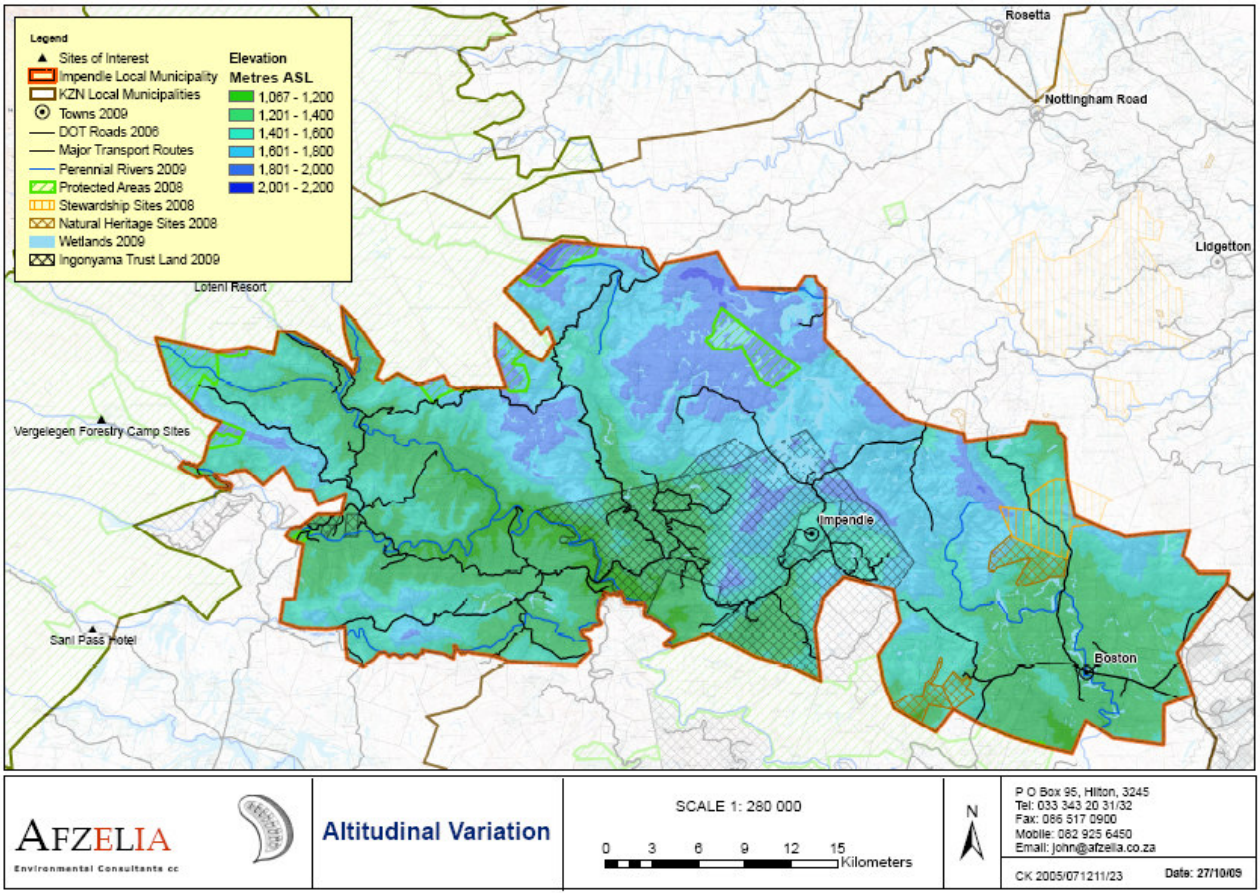


The **natural land form and environment** is best described through the illustration in Figure 5[12], showing clearly the deeply incised river valleys through the foothills of the Drakensberg range and the high and broken topography in the north and western areas of the municipality, with the more gentle landscapes found in the east of the municipality. This needs to be viewed in conjunction with Figure 6 which is the map showing altitudinal variations in the municipality. This illustrates clearly that the high ground is in the north

[12] All the maps illustrated in the text are contained in Annexure 4 as full A4 size maps for reference purposes. They are drawn from the Status Quo report.

around the uMngeni Vlei area – the headwaters of the uMngeni River and around Impendle Mountain – south-central and along some of the higher spurs from the Drakensberg foothills in the west.

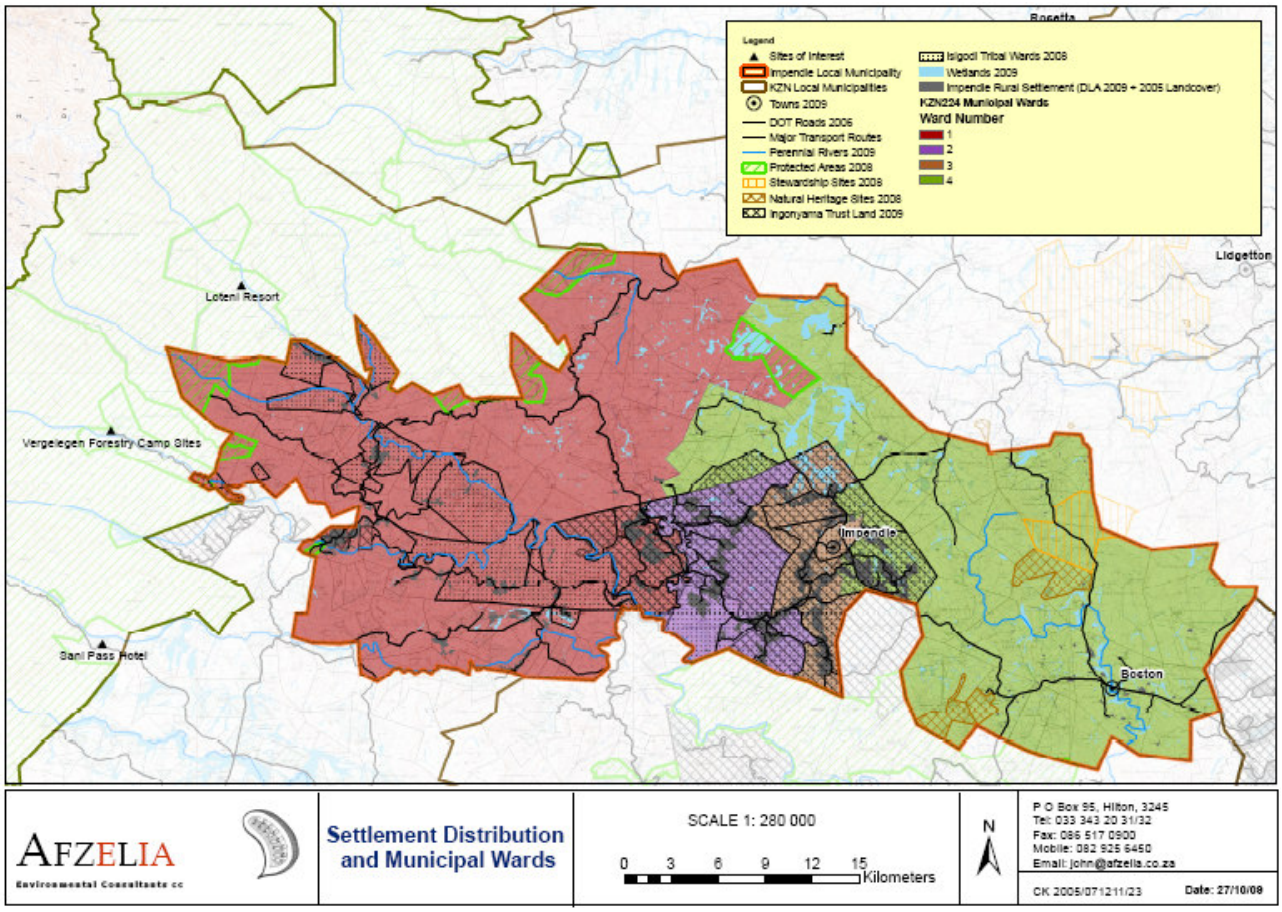
Figure 6: Impendle Municipality Altitude Variation



Whilst these maps did form part of the Status Quo Report, they are reproduced here as they illustrate so clearly not only the natural environment, but how this dictates human settlement and activity.

The location of **human settlement and activity** in Impendle is shaped not only by the topography & landform, but also by land ownership as shown in Figure 7 below. The colours indicate the 4 municipal Wards. The hatched area in the south represents the area under the jurisdiction of the Ingonyama Trust Board or traditional authority area. The stippled area to the north-west shows the *de-facto* sub-wards or *isigodi* which fall outside of the Ingonyama Trust area. Seen in conjunction with Figure 8, it is clear how both topography and land tenure shape the distribution of population and therefore of services. The role of access roads must also be emphasised with settlements showing a distinct linear pattern in many cases along the road alignments with a clustering of settlement in the Ingonyama Trust areas and along the road network in the *isigodi* areas.

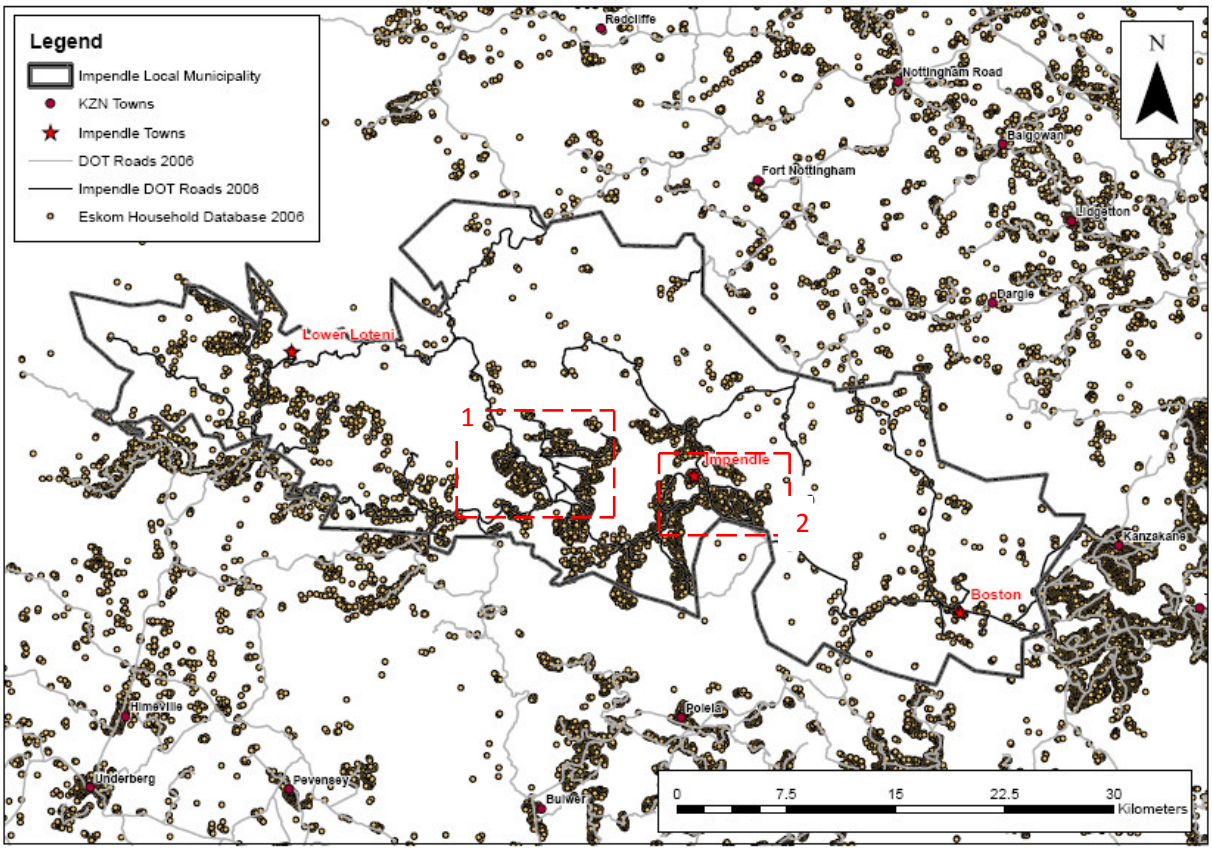
Figure 7: Settlement distribution within Impendle Municipal Wards & Ingonyama Trust Area



Figures 9 and 10 below correspond to the red squares marked 1 & 2 respectively on Figure 8 below. This provides an indication of what the spatial form looks like on the ground with Figure 9 being at a larger scale than Figure 10 which shows Impendle town in the north-west corner and the settlements surrounding it to the south and east clearly following roads which run along the ridges south of the town. While the Eskom distribution map appears to show high densities (visual display) it is clear from the Google Earth aerial photographs that the densities are fairly low. While there is a certain structure and form to the settlements in terms of layout, they are clearly closely linked to their rural surroundings with cultivated and terraced fields showing clearly. The topography does limit the location and spread of settlement but it is clear that these settlements are close to areas with steep slopes and river valleys which require specific land use management if degradation is to be minimised.

The spatial form is therefore driven by the road network which follows the main provincial road (P7-2) from Pietermaritzburg through Boston to Underberg which cuts through the southern portion of Impendle; the road to Impendle (D510) from the P7-2; the road from Impendle through to Dargle (P130); the road connecting the settlements in the southern part of Impendle and currently being upgraded as an alternative

Figure 8: Human settlement (Eskom household distribution map 2006)



route to Underberg (P127-2)and the road from Underberg to Nottingham Road passing Vergelegen and Lotheni, hugging close to the Drakensberg foothills (P27-3). There are then the three main access routes towards the 'berg on the Nzinga/Mkhomazi road (P129), the Lower Lotheni road (P277) and the road to Vergelegen (D6).

Both the maps and the aerial photographs illustrate one of the issues or threats that is posed to the Ukhahlamba-Drakensberg Park World Heritage site, and that is the sprawl of settlement along the road alignments, particularly west and north-west of Impendle town heading towards Lower Loteni and Vergelegen. The nodes can be specified as follows:

- Primary node: Impendle
- Agricultural service node: Boston
- Secondary/tertiary nodes: Nzinga, Stoffelton, Stepmore

However, it is only Impendle that has a defined boundary as a node. Boston needs to have a formal boundary determined (IDP, p.94), and the maps and photographs show clearly that none of the other nodes are contained within a defined boundary, but rather sprawl along the access roads. One of the performance criteria for this SDMP is the definition of urban edges and containing settlement, as far as possible, within that edge.

Figure 9: Google Earth view of settlement pattern on road to Nzinga

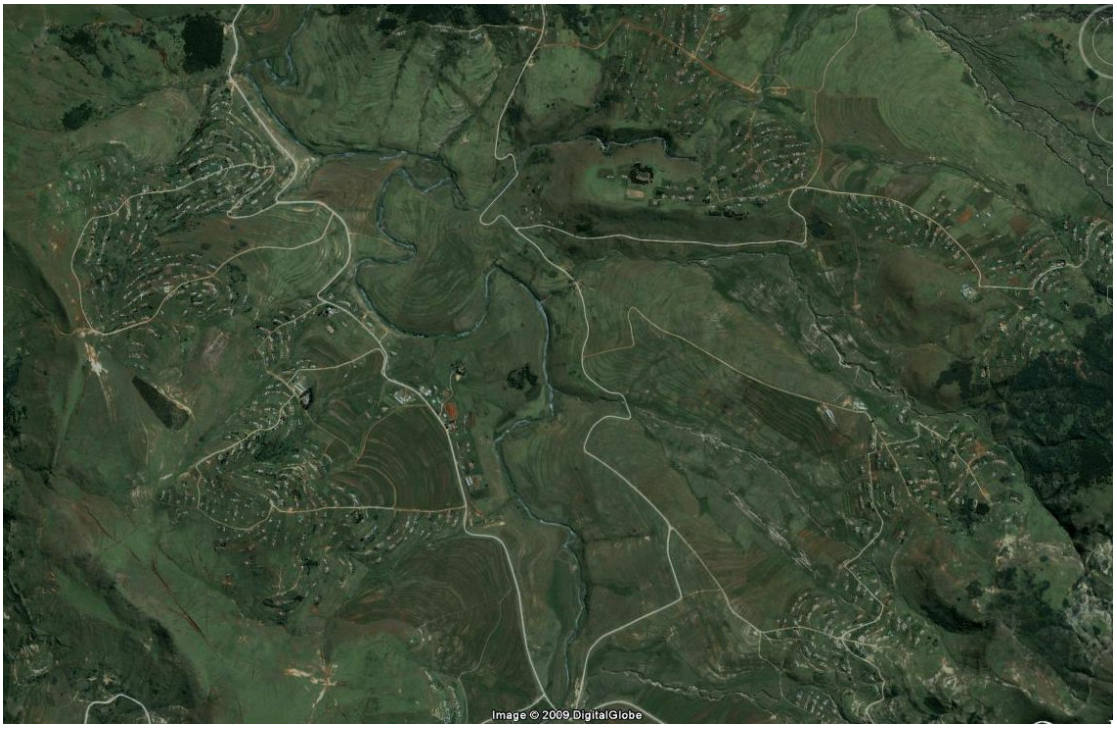
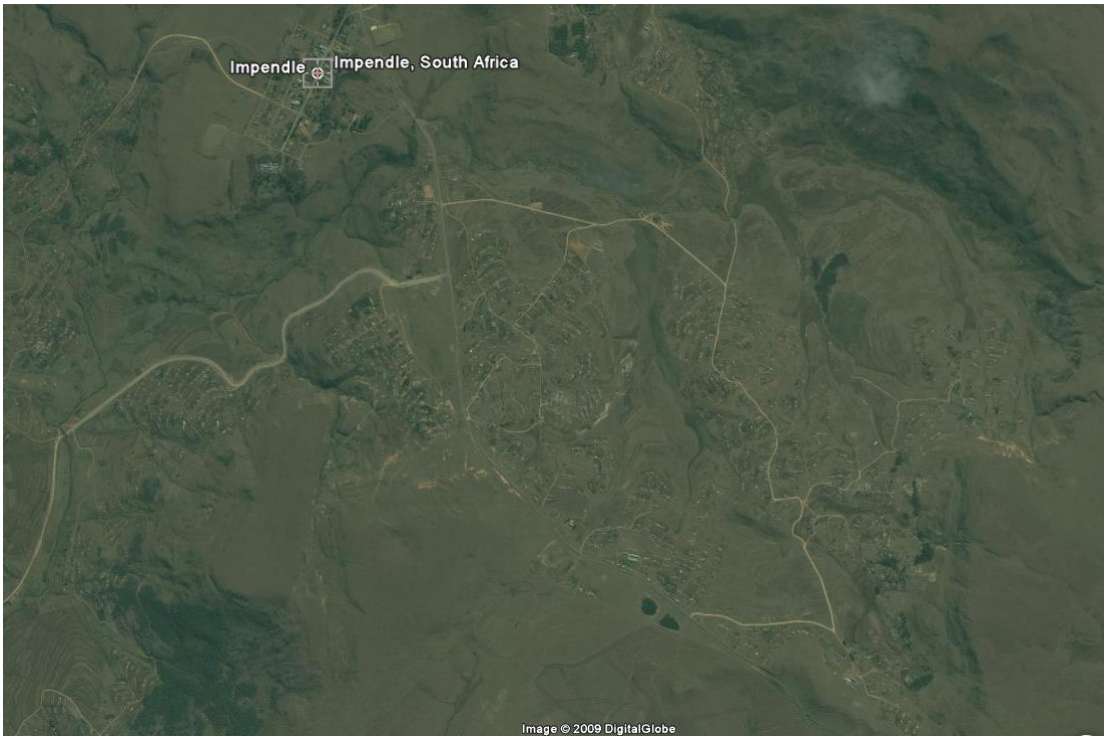


Figure 10: Google Earth view of settlement pattern south-east of Impendle town



3.2 PROPOSED SPATIAL FORM

The proposed spatial form will be shown as being built up through different layers: environmental, accessibility, economic (agriculture and tourism) resulting in a final broad spatial framework which will inform the more detailed land use management system schemes (LUMS). Most important, is that this spatial form must respond to the objectives set out under section 2.4 – the spatial vision and objectives for Impendle.

3.2.1 Landscape Layer

This layer represents defining of the different types of landscape within the municipality:

- Urban
- Rural
- Wilderness

It is critical that lines are drawn between these three landscapes; only then will the municipality be able to make investment decisions, in terms of infrastructure and service provision, with confidence. There will, given the reality on the ground, be some difficulty in deciding where these lines should be drawn, and some difficulty in maintaining those lines given political, social and economic pressures to blur the lines which will mix up form and function and compromise that clear sense of place that should define each landscape type.

The concept of a "viewscape" links in strongly with this landscape layer. If the landscapes are well defined and managed, the viewscapes, which are important to the economic framework (tourism investment) will be more easily assured.

It is important to note that for Impendle, the "urban" landscape will be defined and operate at a very different level to an urban landscape in uMsunduzi Municipality for example.

The lines defining the urban landscape must take into account anticipated growth; but this must also be premised on the principle that even in a rural area such as Impendle, densification within that urban boundary must take place.

Dewar and Louw state clearly that outer edge definition cannot simply be an opinion, "it must be based on defensible information"[13]. They go further to say "This implies the definition of 'no development' areas which are information driven. The overarching issue here is to leave as much land under wilderness and rural activity as possible"[14]

The environmental, economic and spatial frameworks which follow, show clearly how these landscape elements find expression in conservation, economic and accessibility parameters.

[13] Dewar, D. and Louw, P., 2009, Defining Limits on Settlement Expansion: the Issue of the 'Urban Edge', p.6
[14] Dewar, D. and Louw, P. 2009

3.2.2 Environmental layer (non-negotiable and negotiable)

The process involved the mapping of vegetation types and species data (where available), ecological processes, transformation and threats, all relevant to biodiversity targets and optimal resource utilisation.

This information was used to identify negotiable and non-negotiable areas in the planning domain. A non-negotiable area is considered to be an irreplaceable and highly significant area that needs to be maintained in a natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of critical ecosystem services. A non-negotiable area comprises the best choice of area for achieving biodiversity targets of the relevant biodiversity feature(s). Negotiable areas are areas that are not essential for meeting biodiversity targets but which nevertheless play an important role in supporting the ecological functioning of non-negotiable areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, carbon sequestration, and sustainable rural livelihoods.

A coarse rule-based approach was integrated into the mapping exercise where appropriate, including the following:

- Protected Areas and Irreplaceable areas (in terms of the EKZNW terrestrial systematic conservation plans) formed the basis of area selection, where possible establishing linkages and selecting adjacent areas in order to achieve biodiversity targets. Areas within private or community nature reserves and game reserves were only specifically integrated into the maps where these areas were considered a more compatible land use in comparison to other land use options in an area.
- The mapping exercise aimed to maximise connectivity through a system of ecological linkages within the municipality and with adjoining areas. Cognisance was taken of important biodiversity linkages into adjacent municipalities.
- Areas of transformation and human activity were avoided to reduce the likelihood of edge effects on important biodiversity areas.
- Areas of good and high potential agricultural land and potential future settlement were avoided when selecting areas for achieving biodiversity targets.
- Large areas were selected in preference to small areas on account of the impact of fragmentation. The preferred shape of selected areas comprised those with a low edge-to-area ratio, which minimizes edge effects.
- Areas comprising significant altitudinal gradients and high diversity of relief were selected wherever possible to allow for species shifts in response to climate change.
- A risk-averse approach was adopted where possible whereby those areas with the least threat and highest likelihood of being well managed were selected in preference to areas at risk.
- Inaccessible areas were selected where possible.

The following layers comprised the non-negotiable and negotiable layers:

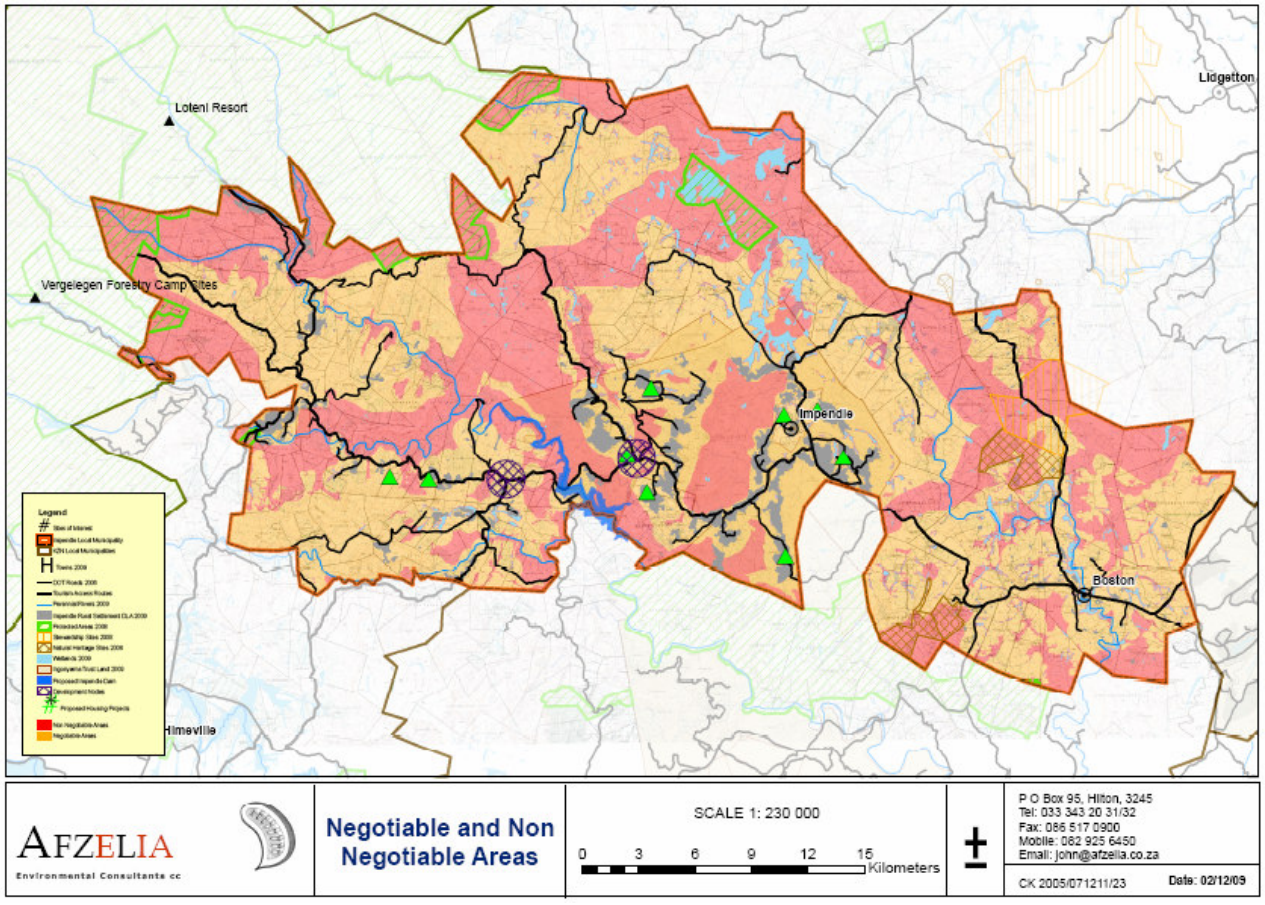
<u>Non-negotiable:</u>

- Blue Swallow, Vulture, and Wattled Crane nesting sites and buffers

- Defined vegetation target areas, including critical corridors
- All Endangered and Critically Endangered vegetation areas
- Wetlands and their buffers
- Protected Areas
- Locations of priority plant species
- Locations of priority animal species
- Sites of Conservation Significance

All of the natural assets in these areas is considered critical for achieving conservation targets, and any further transformation would to a high probability render unacceptable biodiversity impacts. Further transformation may therefore not take place in these areas, unless it can be shown that losses can be offset elsewhere.

Figure 11: Environmental: Non-negotiable & Negotiable Areas



Negotiable:

- EKZNW Terrestrial Conservation Plan Irreplaceable areas
- EKZNW Aquatic Conservation Plan Earmarked areas

- River corridors
- Important water yield areas
- Natural Heritage Areas
- Stewardship Sites
- Crane Hotspots
- Heritage sites

All of the natural assets in these areas is not considered critical for achieving conservation targets, however specific biodiversity and ecosystem features within these areas must not be impacted on negatively to avoid unacceptable ecological and biodiversity impacts; termed conditional use areas. Further transformation, although discouraged in these areas, may take place provided the specific biodiversity and ecosystem features beholden to these areas are catered for adequately.

3.2.3 The Economic Land Use Framework

The economic land use framework guides the location of future economic activities relating specifically to conservation, settlement and agriculture. In traditional rural settlement there is often tension between these uses and it is important that the basic components of the land use framework, from an economic perspective, is understood. The components of the economic development land use framework are:

- The settlement edge;
- Formal conservation;
- Environmental – limited grazing; and
- Arable land.

This ties in clearly with the landscape elements: urban is within the settlement edge, formal conservation equates with wilderness and environmental with limited grazing and arable land is defined as a rural landscape.

Settlement Edge

It is anticipated that areas within Impendle, most notably the central areas to the west of Impendle Town and specifically those settlements with access to new roads being developed, will increase in population density. An inability to control the future growth of these currently low density settlements will see, over time, densification and a further spread of rural settlement. This will potentially impact on the economic development potential of high potential agricultural land and priority conservation areas.

From an economic development perspective the key objectives of the settlement edge will be to:

- ensure that high value agricultural land is protected;
- ensure economic value of conservation areas are protected;
- acknowledge the “viewscape” line of the Ukhahlamba Heritage Park (see Figure 13);
- facilitate the development of infrastructure and housing that is economically sustainable;

- through denser settlement, develop new opportunities for economic development serving the residents of these areas

The major difference between development inside and that outside the settlement edge will be the level of service offered. It is anticipated that within the settlement edge infrastructure will primarily be connected to the grid, outside of the settlement edge a lower level of services, mostly non-grid services will be provided.

Within the settlement edge, outside of the nodes, the following are **economic opportunities** to be pursued and facilitated:

- "urban" agriculture (i.e. planting on small plots for subsistence and marketing surplus);
- small scale production activities (e.g. arts and crafts, sewing, metal work and others);
- opportunities relating to housing and infrastructure development; and
- local trading activities.

Formal Conservation

The Impendle Municipality has a number of conservation areas within its boundaries and bordering thereon. These conservation areas represent a major asset and, from an economic perspective, have not been exploited to date. The formal conservation areas referred to include the following areas managed by Ezemvelo KZN Wildlife:

- Mkhomazi
- Lotheni
- Vergelegen
- Impendle
- Umngeni Vlei

From a spatial development perspective the protection of these areas are viewed as non-negotiable and will exclude farming activities such as grazing and cropping. However, this should not preclude the sustainable utilisation of the natural resources offered. In order to effectively utilise these resources a number of issues will have to be addressed:

- linkages between the municipality, stakeholders in development and Ezemvelo KZN Wildlife will have to be strengthened and built on;
- access to the various conservation areas will have to be improved, starting with raising the profile of the areas in terms of marketing (linking to existing routes, web sites etc) and appropriate signposting for tourists and finally the upgrading of key tourism development routes; and
- communities must be empowered to better understand the opportunities offered by tourism and how to deal with tourists.

Once the above has received attention the **range of opportunities** that can be explored relating to the formal conservation areas include:

- the sustainable harvesting of natural resources (controlled in specific areas);
- training of tourism and other guides;

- trout fishing / fly fishing in both dams and rivers;
- hiking and mountain biking;
- a range of adventure tourism related activities;
- rehabilitation activities (e.g. Working for Water / Wetlands); and
- tourism accommodation on various levels.

Environmental – Limited Grazing

The environmental zone covers areas of environmental significance that should be protected and, where feasible, rehabilitated. It is proposed that grazing should be allowed, but only up to 70% of the grazing capacity. Development that is not related to tourism or conservation should not be allowed in these areas.

With the above in mind the **range of opportunities** available in these areas are similar to that available in the formal conservation areas. The exploitation of these opportunities are not necessarily dependent on cooperation with Ezemvelo KZN Wildlife, however, their involvement would be beneficial. Other opportunities to be considered include:

- grazing for livestock;
- harvesting of natural resources; and
- land rehabilitation activities.

No urban development will be encouraged in these areas and where existing settlement exist any densification of such area should be discouraged.

Arable Land

Most of the arable land identified within the Impendle is already used for commercial farming activities or unfortunately, is under severe pressure from settlement densification and expansion. As agriculture should be the foundation for economic development in Impendle it is essential that sound land management approaches, specifically in relation to scarce arable land, (see Figure 12) be developed and implemented.

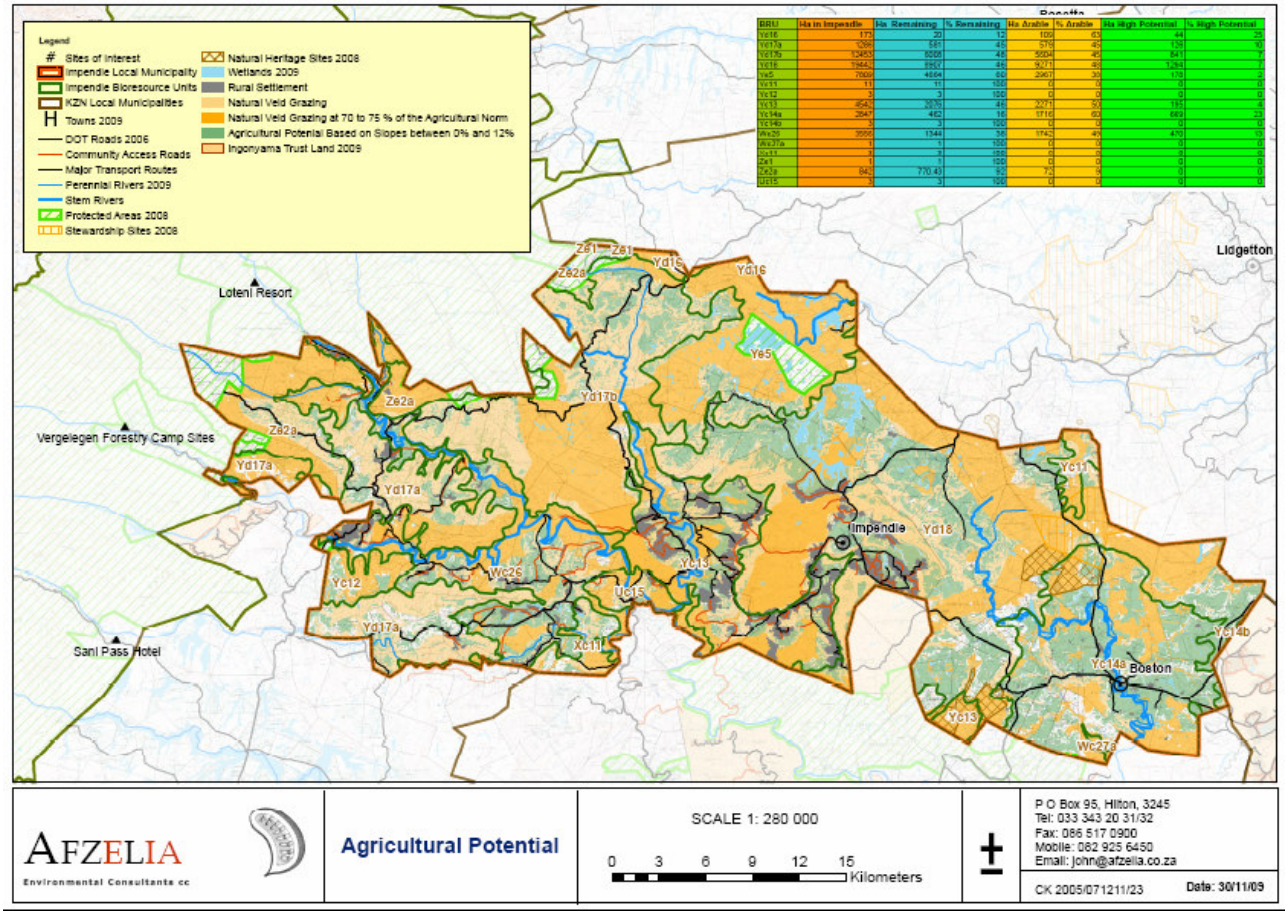
As a starting it will be necessary to, through a participatory process with traditional authorities and communities, undertake a detailed assessment of arable land within the municipality and agree on measures to be implemented to on the one hand protect/reserve land, but also on the other, to make it available for intensive agricultural production activities. Such an investigation should also identify opportunities for irrigation, the development of farming infrastructure (e.g. dams, pipelines, fences and the like). The development of these should be prioritised.

With regards to cropping there is a range of options to be considered, which is beyond the scope of this spatial framework to identify. The Bio-Resource Unit information of the Department of Agriculture provides guidelines in this regard. On the arable land grazing at 100% of the carrying capacity will be supported.

Important opportunities relating to agricultural development to be pursued in the arable areas and areas in close proximity include:

- the implementation of the massification programme of the Department of Agriculture (see separate guidelines available for this – Annexure 3);

Figure 12: Agricultural Potential- Impendle



Note: The table in the upper right of the map indicates how many ha (and in % of total area) per each BRU. An A4 map of this is contained in Annexure 3, with an explanation of the codes for each BRU.

- ensuring easy access to relevant extension services;
- input supply opportunities;
- specialist agricultural support opportunities, e.g. ploughing, harvesting etc; and
- agri-processing opportunities.

Whatever the focus of production activities in the Impendle Municipality there should be emphasis on:

- producing firstly for the local market;
- identifying and developing appropriate markets locally; and
- where external markets are to be supplied, established marketing channels must be utilised.

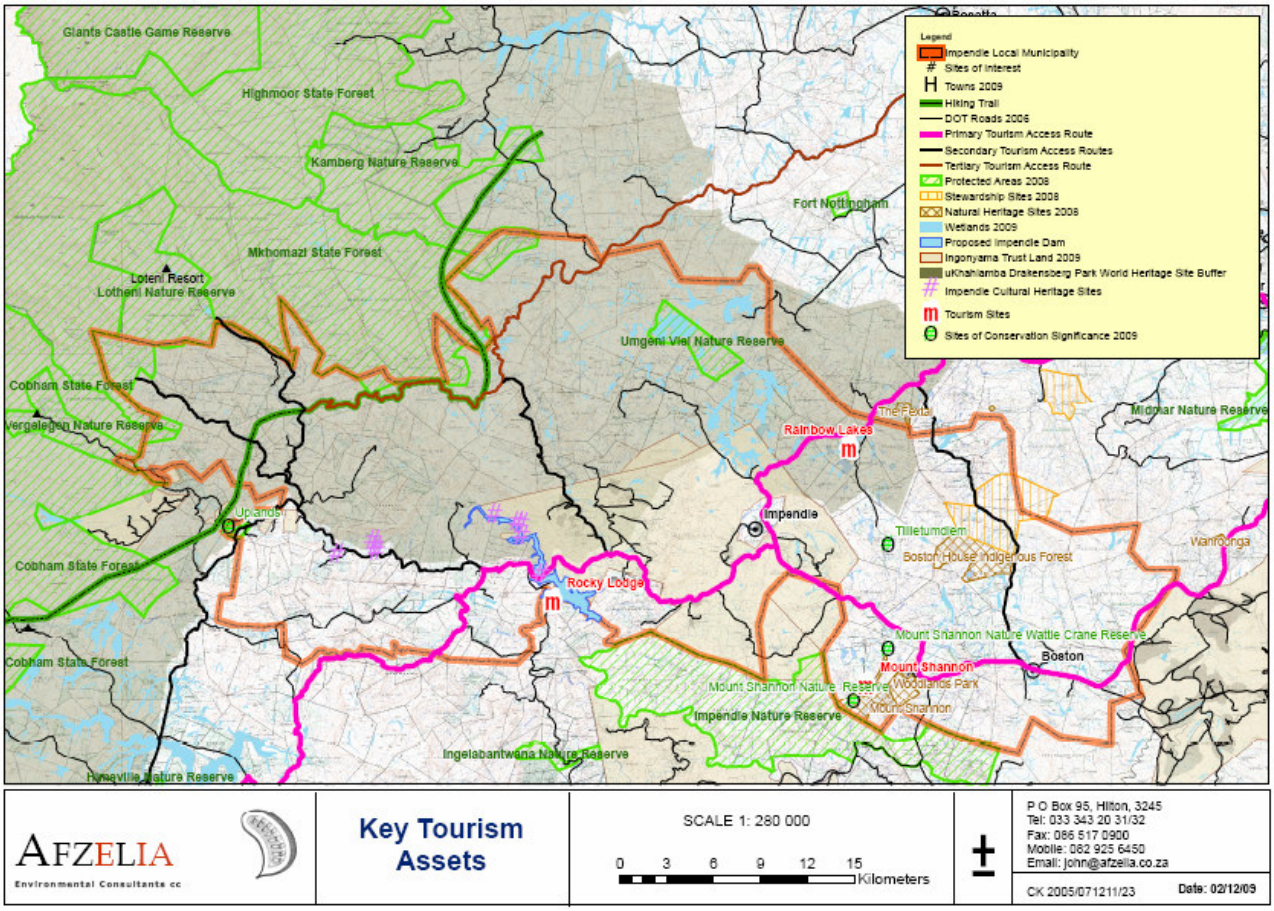
3.2.4 Tourism Framework

The tourism assessment suggested that tourism development is at present limited within the municipality, but that a substantial range of unutilised opportunities exists (see Figure 13). As a result of the current lack of tourism infrastructure and "must-see" opportunities the assessment concluded that the focus of tourism development in Impendle should initially be on "low impact high spending tourism opportunities". A number of these opportunities are already successfully exploited in the municipality and should be built on. Examples of what is defined as "low impact high spending tourist" markets are:

- Voluntourism (already focused on by the Impendle Eco-Tourism initiative)
- Backpackers
- Hikers

These markets will not be discussed in more detail here, but the advantages of these markets are that the tourists do not require upmarket facilities and can be accommodated as part of a "homestay" programme or in basic accommodation. These tourists stay in an area for longer periods of time, spend more money with locals and often, in the case of voluntourism, also bring skills to a specific area that may be needed.

Figure 13: Key Tourism Assets - Impendle



With the above in mind that tourism spatial framework includes the following components:

- Tourism information nodes;
- Primary tourism access;
- Local tourism access;
- Trekking trail;
- Ezemvelo KZN Wildlife related opportunities;
- Specific opportunity areas; and
- Voluntourism.

Each of these components is discussed briefly below.

Tourism information centres

No permanent tourism information function is currently available within the Impendle Municipality and with current levels of tourist visiting the area offering this is not viewed as feasible. The LED Committee has been able to source funding and establish an eco-tourism web-site for the Municipality. This site provides basic information and financial resources should be made available for the continued improvement and updating of this as the most cost effective and efficient way of providing information regarding Impendle tourism opportunities.

The Impendle Public Works Cluster in Impendle Town is an ideal location from which a tourism information function can be offered. Should the Cluster development be used as a craft training and production facility, the tourism information function can be provided by volunteers at relatively low costs.

Opportunities for tourism information centres in closer proximity to the Ukhahlamba Heritage Park, specifically in an area such as Lower Loteni, at the T-junction on the P27-2 on the way to the Loteni Reserve.

Primary Tourism Access

The primary tourism access will be provided through the regional accessibility corridor. The appropriate upgrading of this route and the erection road signage (with a tourism focus) are important.

Local Tourism Access

The local tourism access will be provided through the local accessibility corridor. This will include improved access to areas such as Loteni, Vergelegen and Mkhomazi.

FOR INTEREST: WHY TOURISTS DON'T TRAVEL THROUGH IMPENDLE

The perception exist that Vergelegen / Loteni is located in a "cul-de-sac" that can only be accessed via Bergville and Himeville. On the attached maps generated by GPS software the preferred route in terms of time from both Mooi River and Pietermaritzburg to these destinations is always through Underberg and Himeville- (as opposed to the Impendle Route and the P27-2 via Nottingham Road). From Mooi River (Fig 14) this would be the route marked in red. From Pietermaritzburg (Fig 15) this would be the route marked in blue and red. This makes distances to the key attractions of Impendle from major centres substantial. The software suggests a route of 243 kilometres between Durban and Vergelegen, over Underberg and Himeville. The same software, generally found to be accurate in terms of time predictions, suggest a travel time of 3 hours and 49 minutes for this route. A shorter route of 224 kilometres over Nottingham Road is also available, but a travel time of 5 hours and 38 minutes for this shorter distance is predicted. Based on the experiences of the team this is inaccurate and obviously dependent on the vehicle travelled in.

Figure 14: Vergelegen Access Routes (from Mooi River)

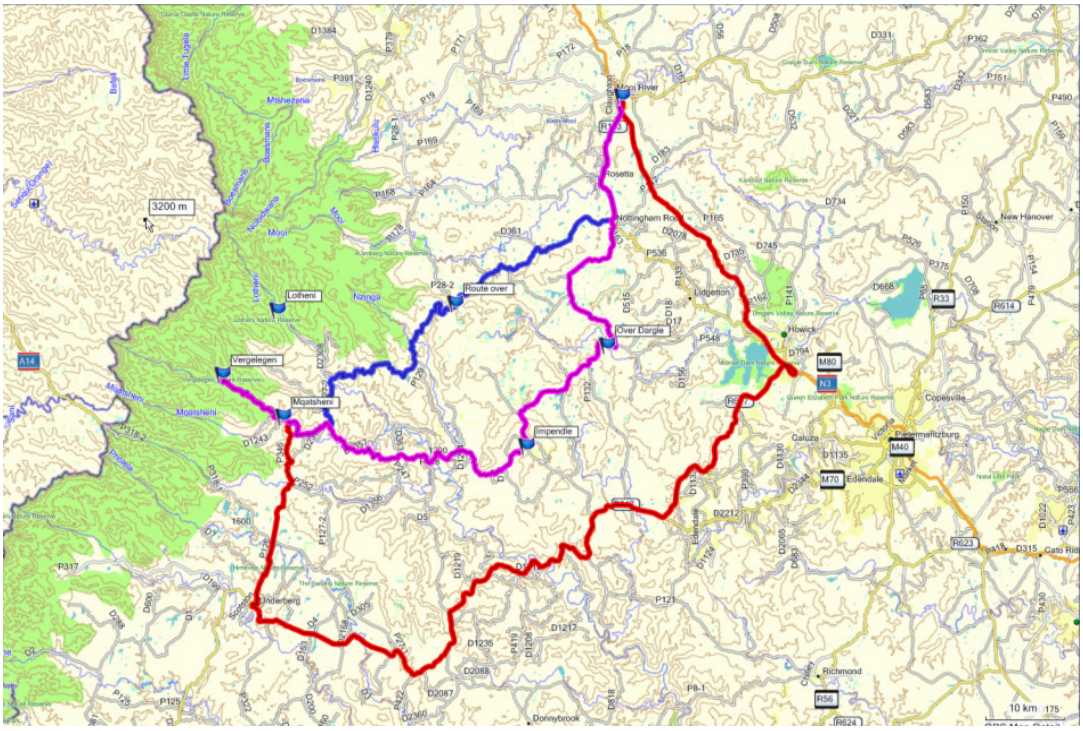
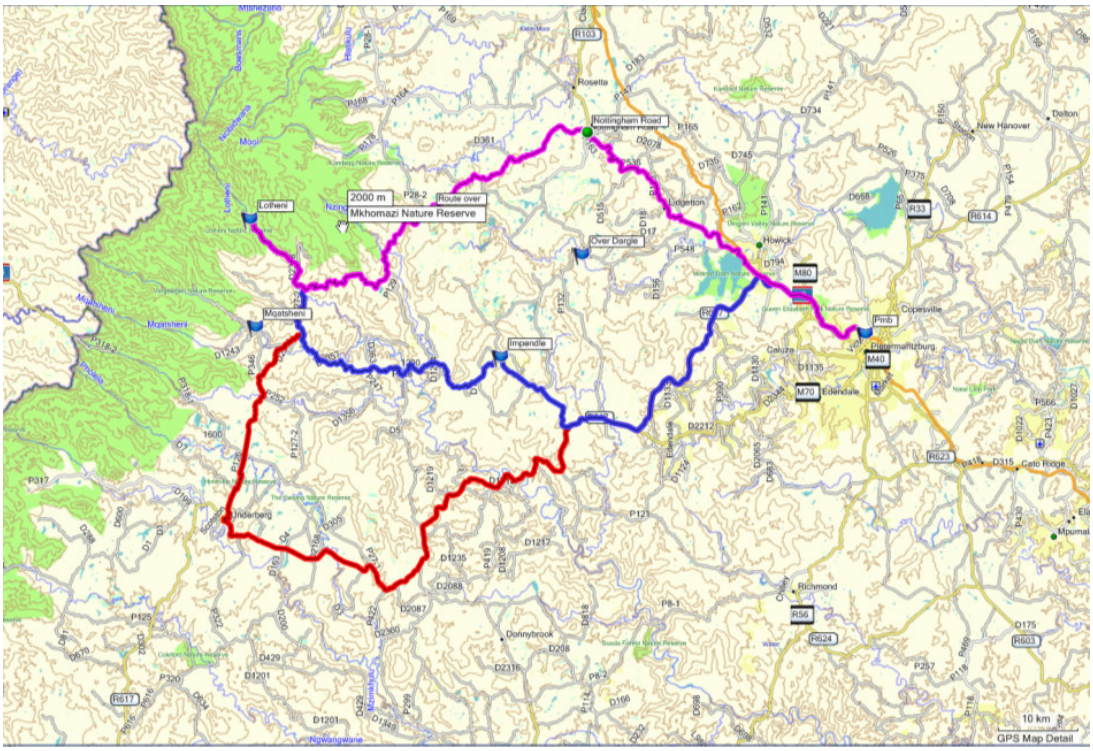


Figure 15: Loteni Access Routes (from Pietermaritzburg)



Voluntourism

Voluntourism is already an existing initiative in Impendle, managed by private individuals. It is a programme targeting local and international people who would like to contribute their energies to helping with a local community project. These volunteers stay within communities for a period of between one week and three months, support the local project and draw on local hospitality.

From a spatial planning perspective it is recommended that specific localities for promoting voluntourism is identified (which is already to some extent the case) and that, through a process of facilitation, the buy-in of communities in this concept be obtained.

Drawing on the work done to date in Impendle and other areas of the province a successful model for municipal support for voluntourism can be developed.

Trekking Trail

The concept of establishing a trekking trail along the foothills of the Ukhahlamba Heritage Park has been considered over a period of time and should be accommodated in the future spatial planning for Impendle. Kiepiel (2006)[15] describes the main components of such a tourism corridor in this region as follows:

The principal route *defines the urban component of the system. This is set back from the mountains in order to create the required gradation of physical development. It links towns such as Swartberg, Underberg, Mpendle, Nottingham Road, Winterton and Bergville into a system of mountain gateways. The route provides the focus for national tourism carriers.*

Lower-order access routes *take off from the principal route: for example, the gateway to Lotheni via Mpendle. These provide access by local public carriers to the Park entrances – the termini are the nodes in the Ukhahlamba-Drakensberg approaches. Clearly, these routes run at right angles to the Mountain Park and not parallel with its boundary.*

The main trail *parallels the Park interface and becomes a focus and means of travel for the micro-tourism economy. The impact of micro-tourism would be contained by avoiding connector roads along the interface. The hiking adventure trail, constructed and maintained by local residents, organizes rural space and creates a framework for development of tourist facilities (teashops, inns, local fresh produce outlets). This major adventure travel route brings overseas tourist spending into marginalized areas and restructures the marketing system accordingly. The trail caters for a variety of visitor demands.*

Key potential infrastructure components for such a route are suggested to be:

- *The trail, stretching from Bushman's Nek to the Free State border through Impendle;*
- *Trekking management centres;*
- *Access road upgrade and maintenance;*
- *Off-grid utility infrastructure; and*
- *Private investment in micro-tourism facilities.*

[15] Discussion Paper: Proposed Tourist Corridor in Ukhahlamba Drakensberg – Trans-Maloti Trekking Trail Spatial Planning: Department of Local Government and Traditional Affairs 22 January 2006. Prepared by Julian Kiepiel

It should be noted that at present mountain-biking stakeholders, through Freedom Challenge, is in the process of establishing a similar type of trail for mountain biking from the Cape to Kilimanjaro. Current information suggests that this route may bypass Impendle. Route planners should be engaged with in this regard.

Economic opportunities potentially associated with such trail development initiatives would include:

- Public works type employment for construction of the trails;
- Community contracts for the maintenance of the trails;
- Support hubs (or trekking management centres) located along the trail at key interceptor points (of the trail and access routes) offering accommodation, food, entertainment and other forms of support such as a place for guides ; and
- Linked to the support hubs and trails a range of local economic development opportunities.

EKZNW/ UDPWHS – Related Opportunities

The formal conservation areas relating to Impendle, as well as the tourism opportunities offered, have been discussed in previous sections (see section on Formal Conservation). The formal conservation areas referred to are: Mkhomazi, Lotheni, Vergelegen, Impendle and Mngeni Vlei.

The formal conservation areas should be a key component of any tourism development strategy for the region and strategies to exploiting the potentials of these areas should be developed with the nature conservation authorities.

It is to be noted that improving accessibility to these areas are key to the better utilisation of their potentials. The potentials in these areas include a **range of niche tourism markets** including:

- Bird watching;
- Fly fishing;
- Hiking;
- Mountain-biking; and
- Various other adventure tourism activities.

Specific Opportunity Areas

Areas with current and future potential for tourism development have been identified. Opportunities offered by each of these areas should be considered in more detail. The areas identified include:

- Mount Shannon
- Rainbow Lakes
- Rockley Lodge
- Sayavuya

These should be reflected as potential opportunity areas in the Spatial Development Framework of the Impendle Municipality.

3.2.5 Business – Commercial Framework

At present the extent of commercial development in Impendle is limited, mostly confined to Impendle Town. In the rest of the municipality the commercial sector is characterised by dispersed general dealers and spaza shops. It is noted from interactions with stakeholders that the normally "sleepy" Impendle Town thrives on pension payment days, but that the reason for this is not people attracted to retail and commercial facilities, but only to access pensions. Few local businesses are locally owned and local stores are perceived to be expensive.

Although there are a number of retail establishments in Impendle Town the indication is that up to 70% of goods and services are still sourced from elsewhere, mostly the Pietermaritzburg / Edendale area, despite high transport costs. This alone suggests that opportunities in the retail sector exist.

Local Income Circulation[16]

It is recommended that the core focus of the municipality should be on promoting local income circulation and reducing the leakage of income to other areas. An important pre-condition for improving local income circulation is to expand on local production.

Applying the concept of establishing a "ring of markets" offers the basic framework for promoting local income circulation. This suggest that weekly or even monthly markets be established in the primary and in secondary nodes (at least initially) coordinated with government service delivery in order to attract people. Local people should be encouraged to not just use the markets for buying goods and services, as is currently the case around pension payment points, but to also produce for the local markets.

A basic approach towards the establishment of a "ring of markets" should include the following steps:

- As a first step, to coordinate government service delivery with proposed market days;
- Appropriate space for a market must be identified and basic planning for the preparation of the market space should be done with the local community;
- The market, or ring of markets, must be established and the activities around the markets must be coordinated; and
- Lastly, the growth around service points and markets must be managed and over time, depending on the success of the market, more permanent facilities can be developed around the market place.

Primary Economic Node

General opportunities and interventions aimed at improving the feasibility of the node have been discussed. In terms of the retail / commercial sector it is important that the current offering of facilities in Impendle Town must be investigated in more detail. Before an effort is made to introduce a new retail development into the Town it may be worthwhile to consider and resolve issues relating to the current offering.

Rural Economic Nodes

Based on previous sections it is proposed that market development and improved government service delivery should be the focus of development in the rural nodes. Providing higher density housing in

[16] DLGTA, 2009, Provincial Spatial Planning Guidelines, Guideline 4 – Local Income Circulation

appropriate locations around these nodes could make an important contribution to increasing the feasibility of market and commercial activities.

Depending on the character of the area surrounding the specific nodes there may also be opportunities for:

- tourist facilities;
- agricultural facilities; and
- community facilities.

Production Expansion

Relating to the proposal for increased local income circulation is the need for greater levels of production. Specifically agricultural production has been discussed in previous sections, but a range of production opportunities must be considered, including[17]:

- Agri-processing;
- Knitting and sewing;
- Crafts for household use;
- Metal work;
- Wood work;
- Block making;
- Upholstery;
- Repairs; and
- Services such as electrical, plumbing, building and others.

This should be focused on in all residential areas of the municipality.

3.2.6 The Accessibility Framework & Impendle

Chapter 2 described the context and concepts of accessibility, looking at both national and provincial frameworks. This chapter brings those concepts down to the local level at Impendle.

Impendle in relation to the PSEDS

A comprehensive provincial spatial framework has not yet been developed since 1997. However, there is an economic framework with a spatial dimension (Provincial Spatial Economic development or PSEDS) in the form of nodes and corridors for the province. This is summarized in the figures below:

Based on Figures 16 and 17 it is seen that Impendle is located in Activity Corridors SC8 and SC 15 which include both agriculture and tourism. There is no clear reference to nodes in Impendle in the Figures, but these will be dealt with at a local Municipal level in the SDF component of this report.

[17] See also Guideline 3 from DLGTA, 2009, Provincial Spatial Planning Guidelines, Guideline 3 – Alternative Technologies

The spatial framework identified in the PSEDS will be used to underpin the SDF component for Impendle. The implications are that owing to Impendle's relatively inaccessible location in KwaZulu-Natal and to its essentially rural character the following applies:

Figure 16: Sectors driving economic development in Kwazulu-Natal[18]

PROVINCIAL SPATIAL ECONOMIC DEVELOPMENT STRATEGY (PSEDS)

There are four key sectors driving the KwaZulu-Natal economy, namely:

•Agricultural sector (including agri-processing) and land reform;

•Industrial sector;

•Tourism sector; and

•Service sector (including government services)

Source: Dukuduku on-site Re-settlement Project: DLGTA 2009

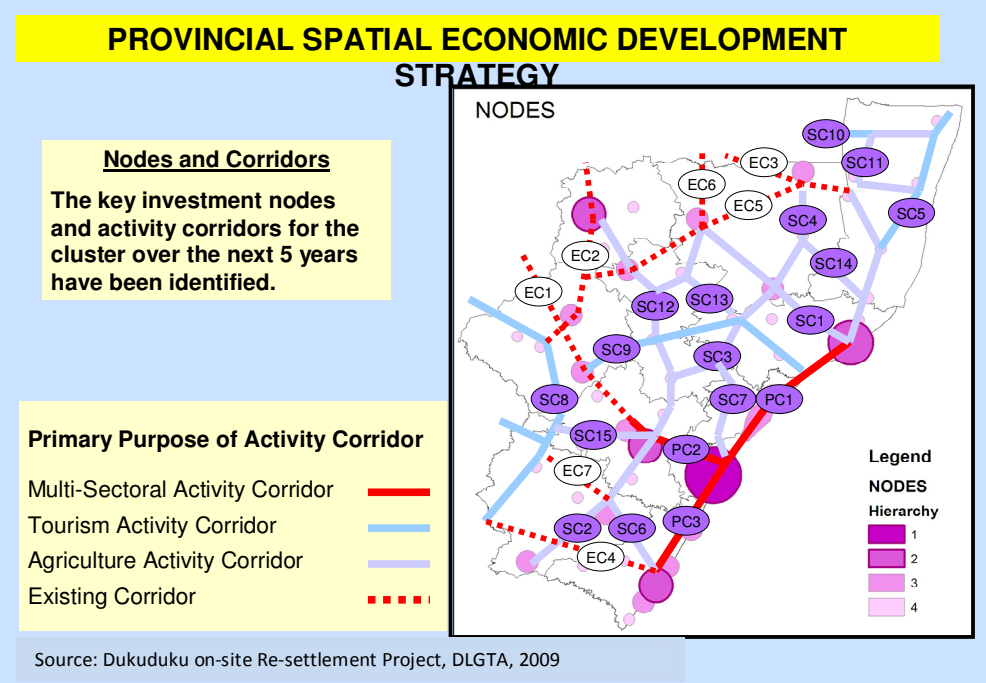
- there should be a tourism corridor in the Drakensberg region;
- there should be an agricultural activity corridor leading from the regions' main centres through Impendle to nodes in KwaSani (P27-2);
- there is a scheduled possible upgrade of the P130 from Lions River via the Dargle to Underberg and from there via Matatiele into the Eastern Cape involving the final alignment of SC2.

A further dimension to consider in compiling the SDF is the policy framework for development provided in the NSDP (Annexure 2). One of the key considerations in the Impendle context concerns the location of future capital investment. Settlement tends to be scattered in the four wards of Impendle. Extension of the full range of services provided by government to these areas will serve to compound inefficiencies inherent in this approach (ie. habitat destruction, opportunity costs). Following principles contained in the NSDP, future investment by government needs to take place in locations with economic potential. Areas without growth potential need to be provided with basic level RDP services. This basic level comprises water supply at 6kl/household/day, walking distance of standpipe (access to water), access to public transport, electricity, shelter and sanitation. The basic level of services includes free basic services for water and electricity.

The implications of this for planning in Impendle context are that the Impendle town constitutes the economic growth hub of the Municipality followed by carefully identified nodes along major transport axes and intersections. The remaining scattered settlement should be recognised as providing food security and shelter for households in these locations. However, these are largely 'dormitory' areas without any major economic growth potential and hence justify basic services and improved accessibility in terms of transportation as well as information.

[18] The PSEDS (p22) recognises the need for further work; DLGTAs (2006) Discussion Paper on the proposed tourism corridor develops the concept

Figure 17: Location of nodes and corridors in KwaZulu-Natal



Application of Accessibility Model

As may be noted in Annexure 1, Impendle includes Type 8, 11 and 12 areas in terms of land use and economic activities. These relate to rural settlement in traditional areas, commercial agriculture and areas set aside for bio-diversity conservation and management. This places Impendle in Model 4 as shown in Figure 18. Accessibility Model (4) was developed for World Heritage Sites and Conservation areas and is relevant to Impendle. Following the Rural Human Settlements findings the detailed principles that need to be applied are dealt with below[19]:

Location

Model 4 areas typically include World Heritage Sites such as the Ukhahlamba-Drakensberg Mountain Park in the west and the Greater St Lucia Wetland Park to the north of the province.

Description

The Model includes regional centres located on the 80km inland grid (eg Ladysmith) linking to secondary routes.[20] These in turn lead to tourism nodes such as Bergville and/or Hluhluwe as the gateways to the wild areas. A range of tourism facilities located in development nodes, such as Bushman's Nek, Garden Castle etc. are linked to the gateways by means of tertiary routes radiating outwards. The tourism nodes in turn could (and in some cases do) form part of a national trails (footpath) system linking the entire Maloti-Drakensberg range. The walking trail provides a market that penetrates into remote inaccessible areas. Tourism allied to

[19] PPDC, 2007, Assessment of Rural Human Settlements in KwaZulu-Natal, pp 59-60
[20] DTLGA, 2006, Discussion paper on Tourism Corridors

conservation could be used to provide employment opportunities for local people in the hospitality, conservation and guiding sectors.

Rural settlements are located in the approaches to these wild areas. In many instances these are freehold areas where syndicates of landowners acquired land in the 1860s. As noted there are also traditional areas located next to and inside of the World Heritage Sites (e.g. Mnweni and False Bay).

Planning Principles

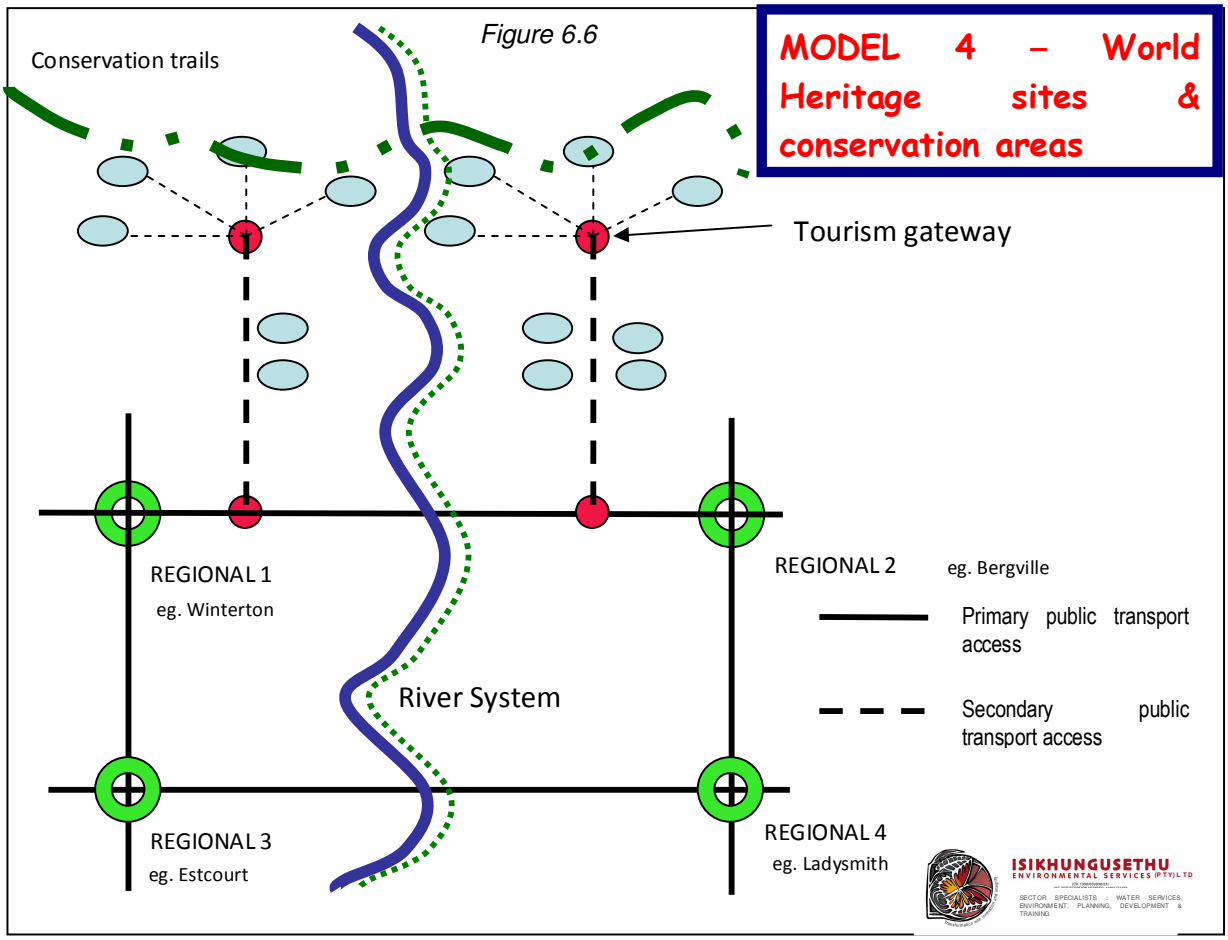
The aim in Model 4 areas is to limit further tourism and residential development to identified nodes in order to safeguard the natural resources of the area. Similarly with rural settlement the aim is to avoid further development in these sensitive areas. This would be achieved by providing higher order services in the regional centres and gateways and only basic services to rural households. Similarly no lateral roadways would be permitted to avoid proliferation of rural settlement and tourism developments. However, the hiking trail would provide a market for small, local businesses in the rural settlements in the form of tea shops, rustic lodges and camp sites.

Infrastructure is developed with care and discretion in this model because of its inherent power to stimulate and guide physical development. All forms of physical infrastructure are important. However, the nature and location of roads fundamentally influences patterns of accessibility and hence physical development. Therefore particular attention is given to the following:

- *roads parallel to the length of the Drakensberg are avoided; the Special Case Area Plan (SCAP) indicates the dangers of ribbon development along the face of the mountains;*

Figure 18: Accessibility Model for World Heritage Sites & Conservation Areas

Model 4 : World Heritage Sites and Conservation Areas
Principle 1: Define an interface between urban and rural systems to prevent uncontrolled urban sprawl
Principle 2: Identification of areas of no-development and areas where limited development may be permitted in relation to environmentally sensitive areas or high value agricultural land



- *mountain roads are undesirable; SCAP indicates that individual nodes should not be linked by mountain drives;*
- *nodal access roads require careful planning in the context of planning of the mountain bio-region.*

A further principle for Model 4 is the establishment of a grid system which encourages linear flows of people and money and has many intersections for economic transactions. The grid system can reduce flows in ecologically sensitive areas and increase them in less sensitive zones through the establishment of hiking trails as a potentially important infrastructure element for the development of micro-tourism in the area.

It should be noted that these principles will be applied to the development of the spatial plan for Impendle in the remainder of this report.

3.2.7 Accessibility: Corridors and nodes

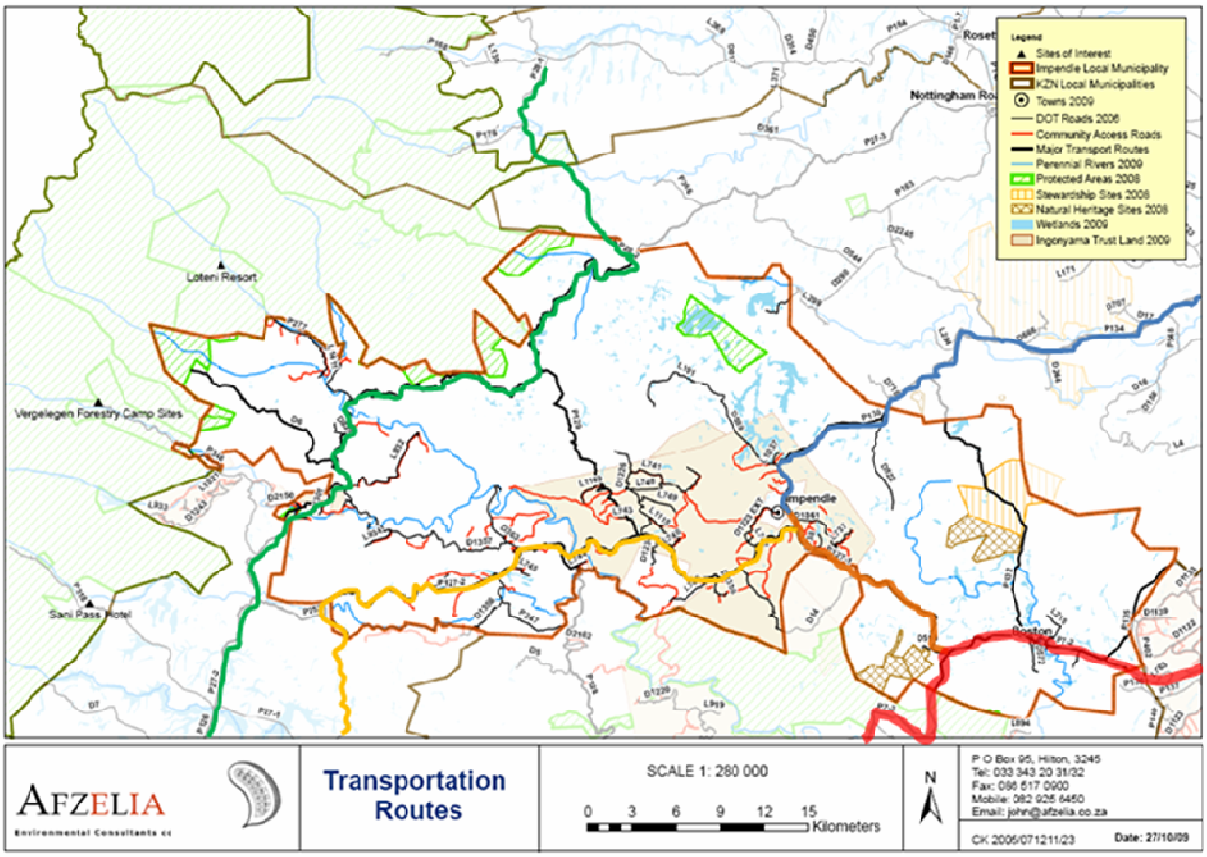
The accessibility framework provides the basic underlying structure for future local economic development activities in the Impendle Municipality. The components of the accessibility framework include:

- The regional accessibility corridor;

- The local access corridors;
- The specialist functional nodes (business, service and tourism nodes).

Figure 19 below shows the road routes through and within Impendle.

Figure 19: Transportation Routes – Impendle



R 617	Pmb – Boston – Bulwer - Underberg
P 127-1	Road from R617 junction to Impendle town
P 127-2	Proposed section of regional through route – Impendle to Underberg
P 27-2	Tourism route – foothills of Drakensberg
P 130	Proposed section of regional through route – Impendle to Dargle/N3

The Regional Accessibility Corridor

At present regional accessibility corridors in Impendle are undeveloped. The only all weather access route into the area is the R617 stretching between Pietermaritzburg, through Boston to Bulwer and Underberg. Impendle town is then linked to the R617 via the P127-1. The current regional road network is of such a nature that Impendle can be viewed as a large cul-de-sac. Visitors to the area may often be unaware of the Drakensberg mountain forming the backdrop for the municipality and very few people travel through Impendle from one destination to another (see more detailed discussion in later sections). This affects the movement of economic goods and services, as there is such limited access corridor flow through the area.

On an inter-provincial level link roads from the Eastern Cape, through Matatiele to Kokstad and on to Underberg is in place. The proposal is now for this link to be extended from Underberg through Impendle to Dargle and on to the N3 corridor. This link road to be aligned with P127-2 (connects to D1358) to the west of Impendle, and the P130 to the north-east of Impendle will effectively complete the regional accessibility corridors of Impendle. From an economic development perspective this link can be motivated for on the basis that the majority of the population of the Impendle resides within close proximity to the route.

An alternative route, possibly a more scenic one, to the Underberg-Nottingham Road route is the P27-2 stretching through Stepmore and Lower Lotheni to Nottingham Road in the north. Indications are, however, that this route is not currently considered for upgrading and should, in fact, remain a scenic route for eco-tourism and local use only.

From an economic development perspective improving the regional accessibility corridors will contribute to the improved flow of economic goods and services, as well as people and tourists, through the area. This will ensure improved linkages between the identified nodes and better opportunities for moving goods and services between nodes and between nodes and markets outside of the municipal area.

Local Access Corridors

Although the local access corridors already exist, these are not all weather roads, making large areas of the municipality inaccessible in adverse (wet / cold) conditions. The P129 link to the Nzinga area and the D1357 link to Lower Lotheni are important east west linkages that provide communities, located to the west of Impendle Town, with access to the Town. These routes are to be promoted as local access corridors and upgraded for all-weather use.

These local access corridors also provide communities with access to the key development nodes in the municipality.

From a local economic development perspective corridor development as such is not recommended as economic development should be focused in nodes. This is more a concept of “beads on a string” with development at points and not continuously along the corridor. It is, however, inevitable that over time densification of residential development and other economic development will occur along these corridors. This potential densification process must be guided through appropriate land use management.

Road improvement in the local access corridors will facilitate the movement of economic goods and services through the area

Principal Development Node

Impendle Town has been identified as the principal development node of the municipality. The node is well located within the Municipality to serve the needs of the majority of the residents of the area. As a rural service node it is also well-developed with an appropriate level of urban infrastructure, offering a range of commercial retail and government services to residents. It has, however, been noted that, despite substantial commercial activity in Impendle Town, people still travel to Pietermaritzburg for the bulk of their household needs.

The role of Impendle Town in the future economic development of the Municipality is important. Various **issues should be addressed** in order to ensure that the Town fulfils this role successfully:

- Access to the Town from all parts of the Municipality must be improved (i.e. local access routes must be developed);
- Better linkages must be provided with neighbouring areas and the flow of goods and services through the area and to the Town must be improved (i.e. regional access corridors);
- The level of government service delivery in the Town can be improved in order for more people to be drawn to the area;
- Middle and low income housing, adding to the permanent residential function of the Town, specifically focussing on providing appropriate housing for civil servants, should be focussed on;
- Real issues and perceptions of the retail environment in Impendle Town must be addressed and the possibility of attracting a retailer offering competitive pricing should be considered; and
- The Town should be promoted as the hub of economic activity in the Municipality with a focus on establishing both production activities and opportunities for the marketing of goods.
- Spatial integration of government investment to use buildings to create integrated spaces.

Functional Nodes

The specialist functional nodes will provide local access to economic goods and services. Five economic development nodes have been identified, viz.

- Boston Town (agriculture)
- Nzinga (commerce and services)
- Stoffelton (commerce and services)
- Lower Lotheni (tourism)
- Stepmore is located in Impendle but is actually being serviced by Siskonke District Municipality and KwaSani Municipality (commerce and services).

In each of the nodes there is already a limited concentration of economic activity. A basic framework for future growth of economic activities in each of the nodes must be established. The goods and services offered to be focused on in each of these nodes will be those to be accessed on a periodic basis by residents of the municipality.

Where appropriate, the nodes will be established to develop a specific character, i.e. in the case of Lower Loteni it is evident that a focus on tourism in the establishment of economic activity in the node should be considered. Boston, in terms of the IDP, is an agricultural service node.

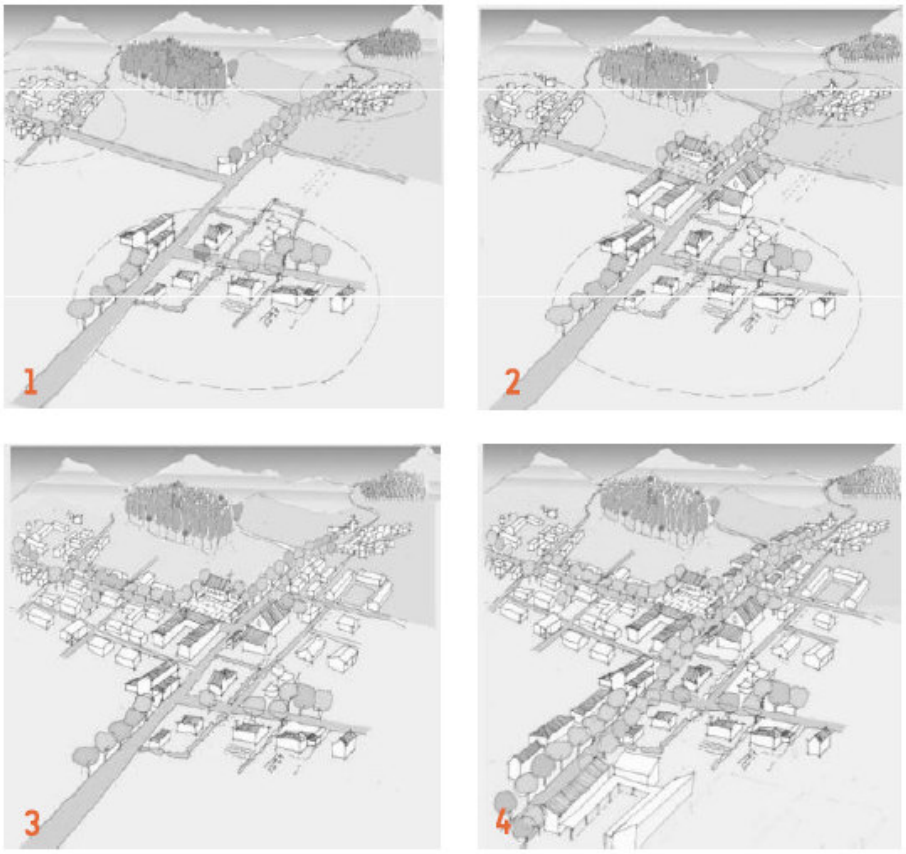
Specific **economic development opportunities** relating to the nodes are discussed in more detail in the section addressing the tourism and commercial sectors.

The development of nodes and defining the "urban edge"

There has been a lot of work done on how and where nodes do develop, where and how they are likely to grow and where they should be located if there is a greenfield site. There are three figures below which

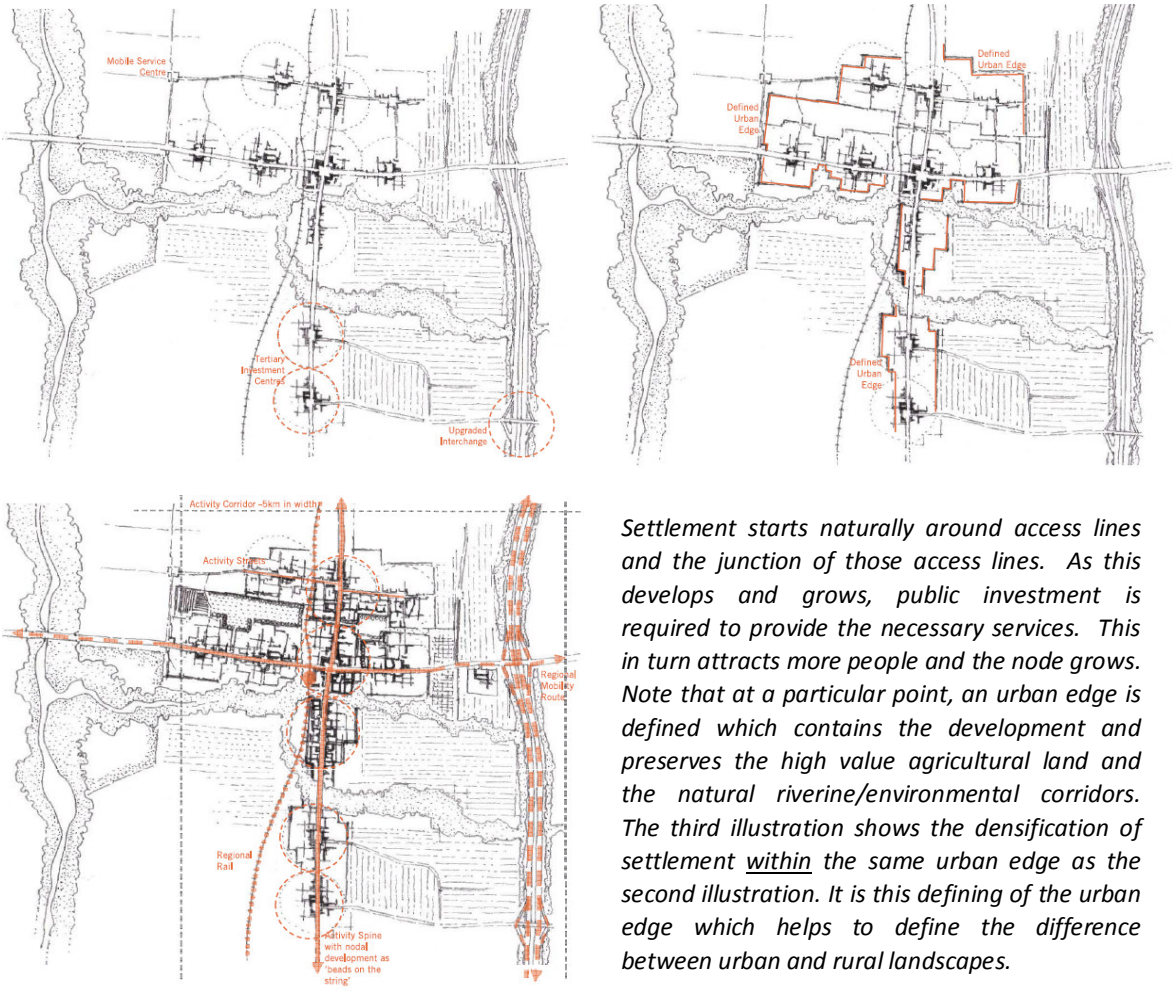
illustrate the likely formation and growth of nodal points, changing from a rural landscape to an urban one at points of greatest opportunity. Figure 20 illustrates how a settlement grows along access routes but centres on the junction of those routes. Figure 21 illustrates defining the urban edge with Figure 22 showing greater detail.

Figure 20: Growth of a settlement in response to capital investment[21]



[21] DLGTA, Provincial Spatial Planning Guideline 1: Public Capital Investment and Settlement Growth, prepared by Iyer Urban Design Studio, July 2009, p.11

Figure 21: Settlement growth & defining the urban edge[22]



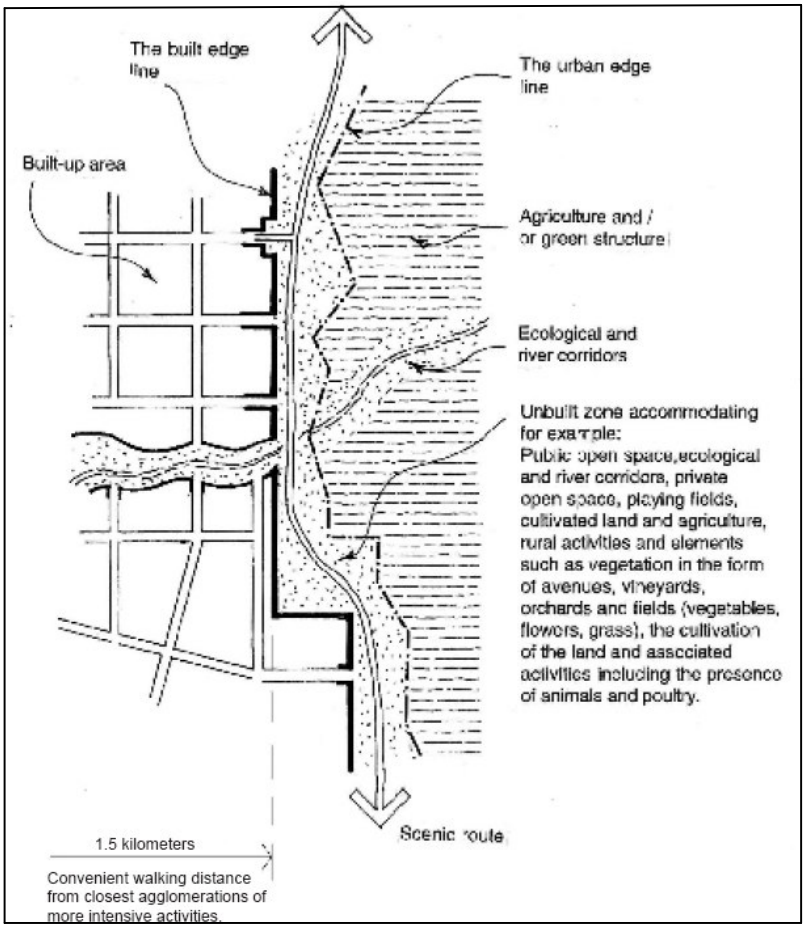
Settlement starts naturally around access lines and the junction of those access lines. As this develops and grows, public investment is required to provide the necessary services. This in turn attracts more people and the node grows. Note that at a particular point, an urban edge is defined which contains the development and preserves the high value agricultural land and the natural riverine/environmental corridors. The third illustration shows the densification of settlement within the same urban edge as the second illustration. It is this defining of the urban edge which helps to define the difference between urban and rural landscapes.

The term urban is used loosely to describe a whole range of settlements; in statistical terms it refers to settlements of over 100 000 people[23], but there are many smaller settlements which are indisputably urban due to their function. The function of an urban area must be those settlements whose economic base is not mainly dependent on primary sector activities, in particular, agriculture. However, parts of most settlements contain activities that service the agriculture that their rural hinterlands depend upon. Drawing from the Provincial Spatial Guideline 5, the term "urban" can be considered "to refer to all agglomerated settlements which are not directly based on working the land"[24]. The main point of trying to define and separate "urban" from "rural" is to contain settlement sprawl which results in "the extensive destruction of agricultural and wilderness land and places of high amenity"[25]. Not only that, but such sprawl results in low densities which

[22] DLGTA, 2009, Defining Limits of Expansion: the issue of the Urban Edge, Provincial Spatial Planning Guideline 1, prepared by Iyer for Isikhungusethu Pty Ltd., July 2009
[23] Op cit. p.1
[24] Op cit, p.1
[25] DLGTA., 2009, Defining Limits of Expansion: the issue of the Urban Edge, Provincial Spatial Planning Guideline 5, prepared by David Dewar and Piet Louw for Isikhungusethu Pty Ltd., July 2009, p.2

makes efficient public transport expensive and difficult to sustain; it makes it extremely inefficient technically and in terms of cost to provide utility services; it results in inadequate social services and commercial investment as thresholds are too low to create acceptable levels of provision. Ultimately, "it results in places which are extremely expensive and inconvenient in which to live"[26] unless one is making ones living directly from the land.

Figure 22: Defining the urban edge


The built edge line
The urban edge line
Built-up area
Agriculture and / or green structure
Ecological and river corridors
Unbuilt zone accommodating for example:
Public open space,ecological and river corridors, private open space, playing fields, cultivated land and agriculture, rural activities and elements such as vegetation in the form of avenues, vineyards, orchards and fields (vegetables, flowers, grass), the cultivation of the land and associated activities including the presence of animals and poultry.
Scenic route
1.5 kilometers
Convenient walking distance from closest agglomerations of more intensive activities.

While few of the settlements within Impendle fulfill the strict definition of urban, all of the above issues concerning the negative effects of settlement sprawl apply directly to the settlements within the municipality.

[26] DLGTA., 2009, Defining Limits of Expansion: the issue of the Urban Edge, Provincial Spatial Planning Guideline 5, prepared by David Dewar and Piet Louw for Isikhungusethu Pty Ltd., July 2009, p.7e

3.2.8 Outline of the SDF

The layers building up to the SDF have been discussed in detail above. This section shows the spatial expression of these layers and how they ultimately build up to an SDF. Each of these map layers form part of the SDMP maps, although they are in diagram form.

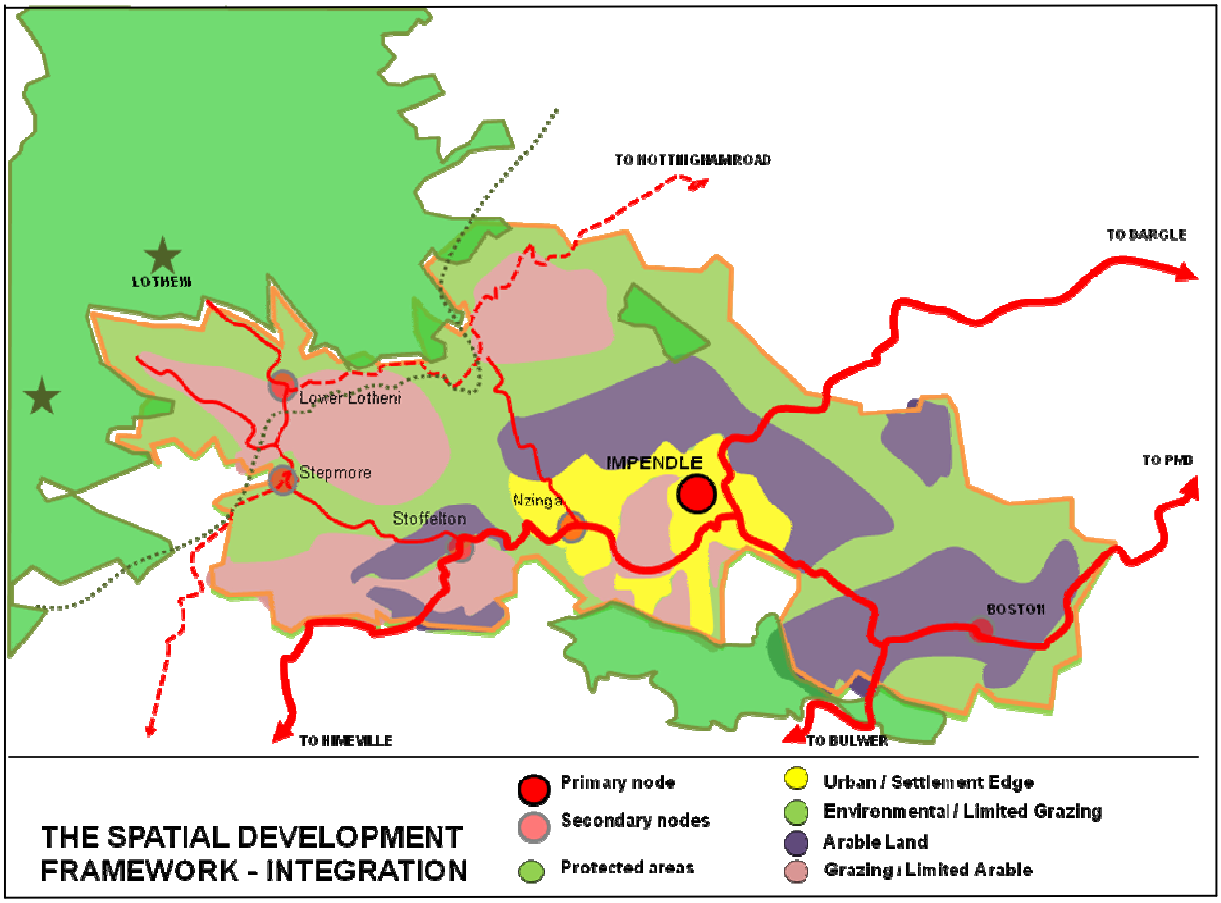
The layers are as follows:

- The Spatial Development Framework (integration)
- The landscape framework
- The accessibility framework
- The economic framework
    - Tourism
    - Business

Map 1: The Spatial Development Framework - Integration

This is a synthesis of the various layers (Maps 2-5) and provides broad land use categories for different areas of the municipality.

Map 1: The Spatial Development Framework – Integration (map to be amended)



It indicates clearly that settlement should be encouraged around Impendle town itself and within established settlement areas close by and with access to the road and better public transport. It recognises the potential of unutilised land with agricultural potential.

The updated SDF map complies with the key strategies outlined in the Impendle IDP 2009/10 (Section D1.4)[27] by:

i. Identifying a hierarchy of access corridors that align with the District SDF and indicating where upgrades should be focused (Map 3);

ii. Identifying a system of development nodes (see Map 3) to serve the community and implement developmental strategies (see the business/tourism framework layers – Maps 4 and 5)

iii. It retains land with high agricultural potential for agricultural use only and within this, close to the areas of higher settlement densities, land for small –scale commercial agriculture can be identified;

iv. It identifies the formally conserved areas in and around the municipality (refer also to Map 2 – wilderness landscapes) as well as protecting the strategic water production area at the Mngeni Vlei;

v. It identifies areas where tourism could be promoted and the type of tourism while not compromising the agricultural and natural landscapes (refer also to Maps 2 and 4).

The nodes[28] that have been identified are as follows:

Primary node: **Impendle town**

This forms the main centre of the municipality and is where the primary commercial and residential development should be focused

Secondary nodes: **Lower Lotheni, Stepmore Nzinga, Stoffelton and Boston**

Nzinga and **Stoffelton** are undeveloped at present, but should be located on the junctions with the proposed inter-provincial through route access. They will form important rural economic nodes with a focus on general commercial and market activity together with basic services. **Stepmore** is the largest out of the identified secondary nodes. Overall, however, they are all in a relatively embryonic state and require investment for formalization. **Boston** is an existing node on the current main link route from Pietermaritzburg through to Underberg. It's prime economic focus is as an agricultural service node for the surrounding commercial agricultural land use activities. **Lower Lotheni** is also undeveloped but should form a specialist tourism node which will allow for the development of eco-tourism related economic activity, bringing tourists in through a mini-gateway to this section of the UDPWHS (see also Figure 18 which illustrates Model 4 of the provincial accessibility framework).

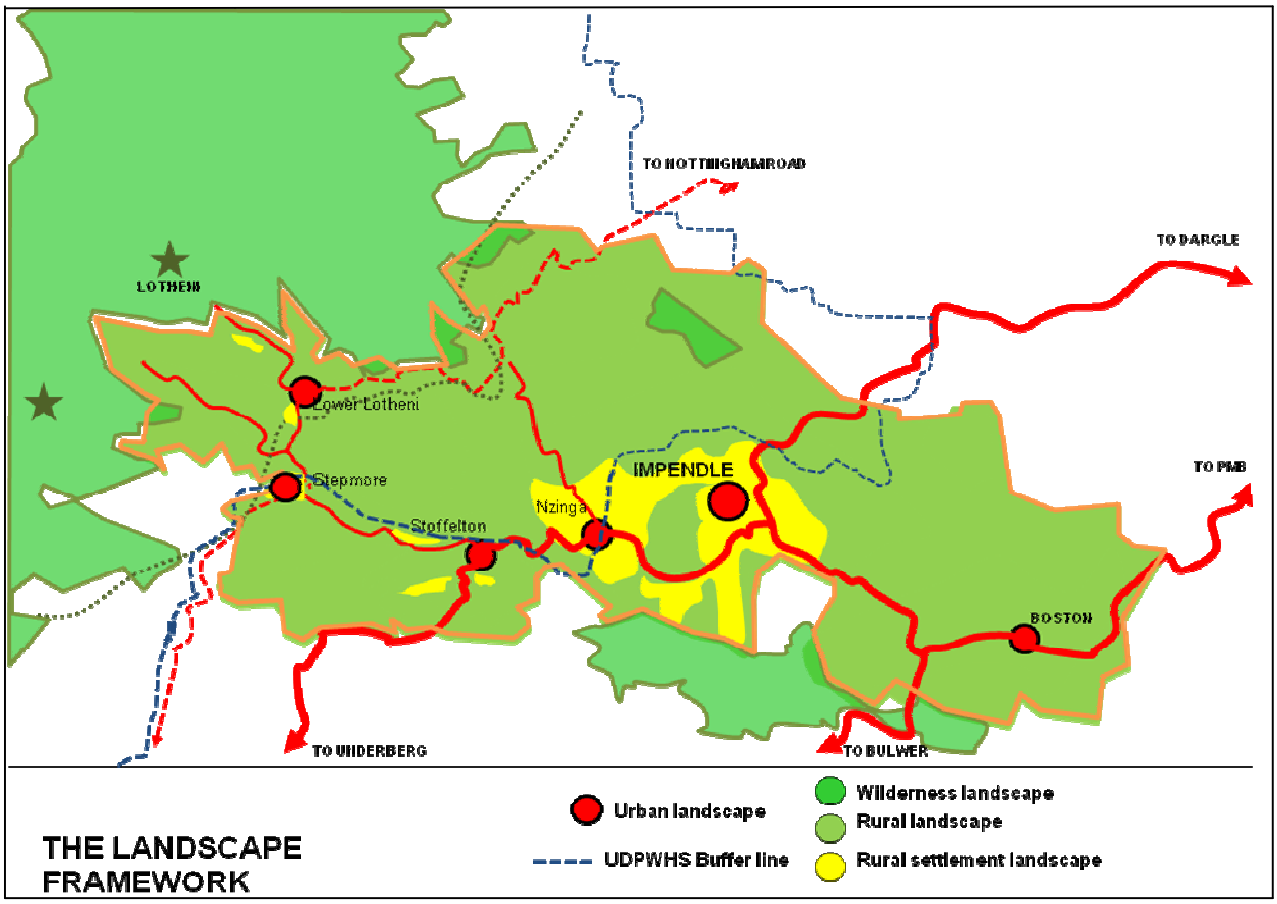
[27] Impendle Municipality, June 2009, Integrated Development Plan Review 2009/10, p.89

[28] Note that in this context, primary and secondary do not refer to a particular hierarchy. Within the 'secondary" nodes there are a range of different functions, some of which will require a greater level of services than others – eg. a tourism node compared with a commercial and service node.

Map 2: The Landscape Framework

This layer indicates the three main elements of landscape for Impendle Municipality: the urban, the rural and the wilderness landscapes.

Map 2: The Landscape Framework

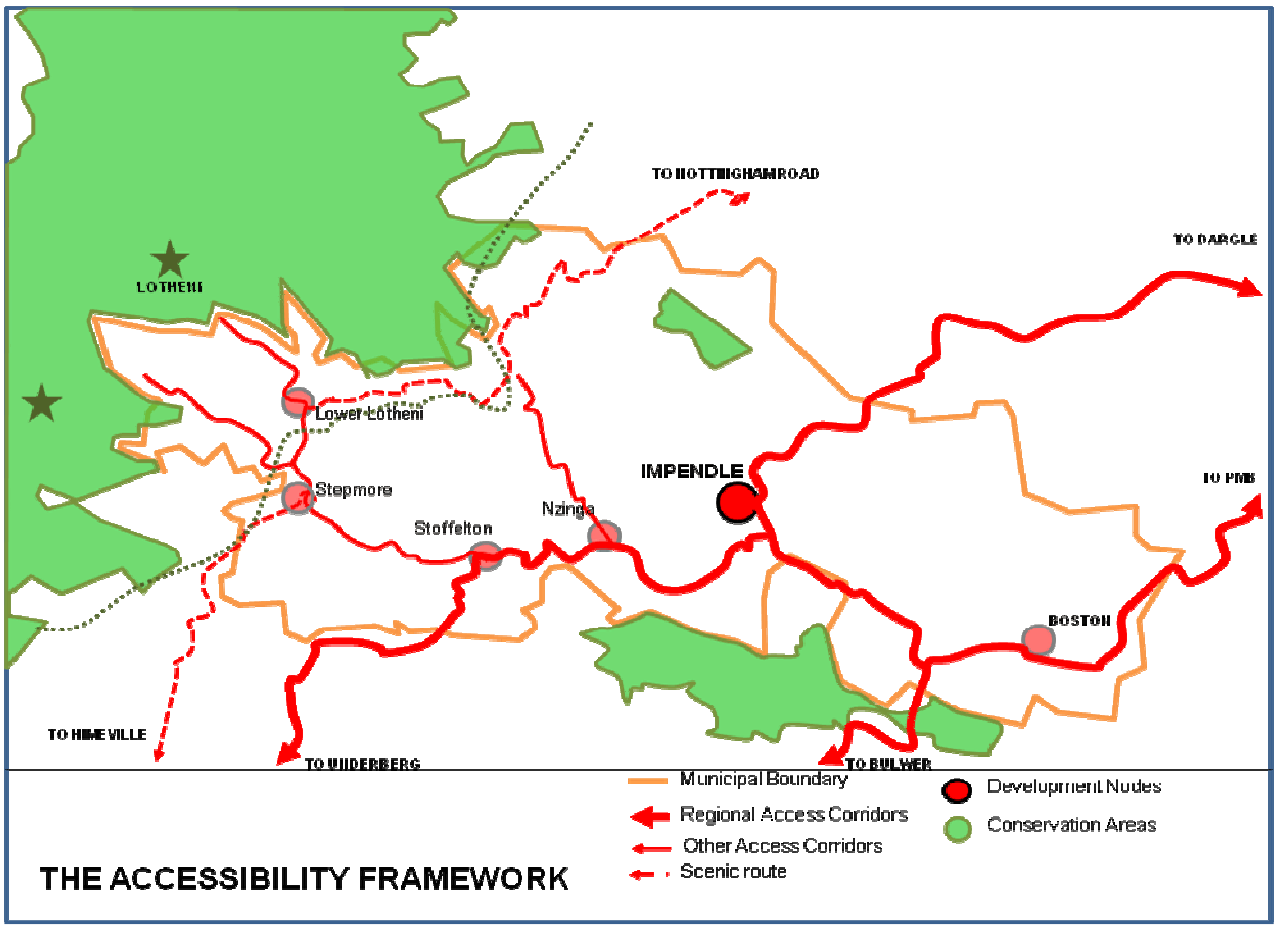


The rural layer is divided into two, primarily because of the nature of land tenure in the Ingonyama Trust areas, but also to provide clearer direction on the management of the current low density settlement sprawl which still has strong ties into its agricultural base. (See also Chapter 4 – Performance Criteria). Overlain across this landscape framework is the buffer zone of the UDPWHS.

Map 3: The Accessibility Framework

This shows clearly which routes should form the regional linkages through to neighbouring municipalities and as potential wider provincial routes. It also indicates those routes which should remain as local access corridors. The dotted red line shows the current alignment of the Himeville-Nottingham Road route; this route needs to be kept low key with only essential maintenance. It should not be upgraded due to its proximity to the Drakensberg and the need to discourage any further settlement or expansion of infrastructural provision near the route – just maintaining basic services to existing settlements. The dotted green line indicates the approximate position of the proposed hiking trail.

Map 3: Accessibility Framework Map (To Underberg)

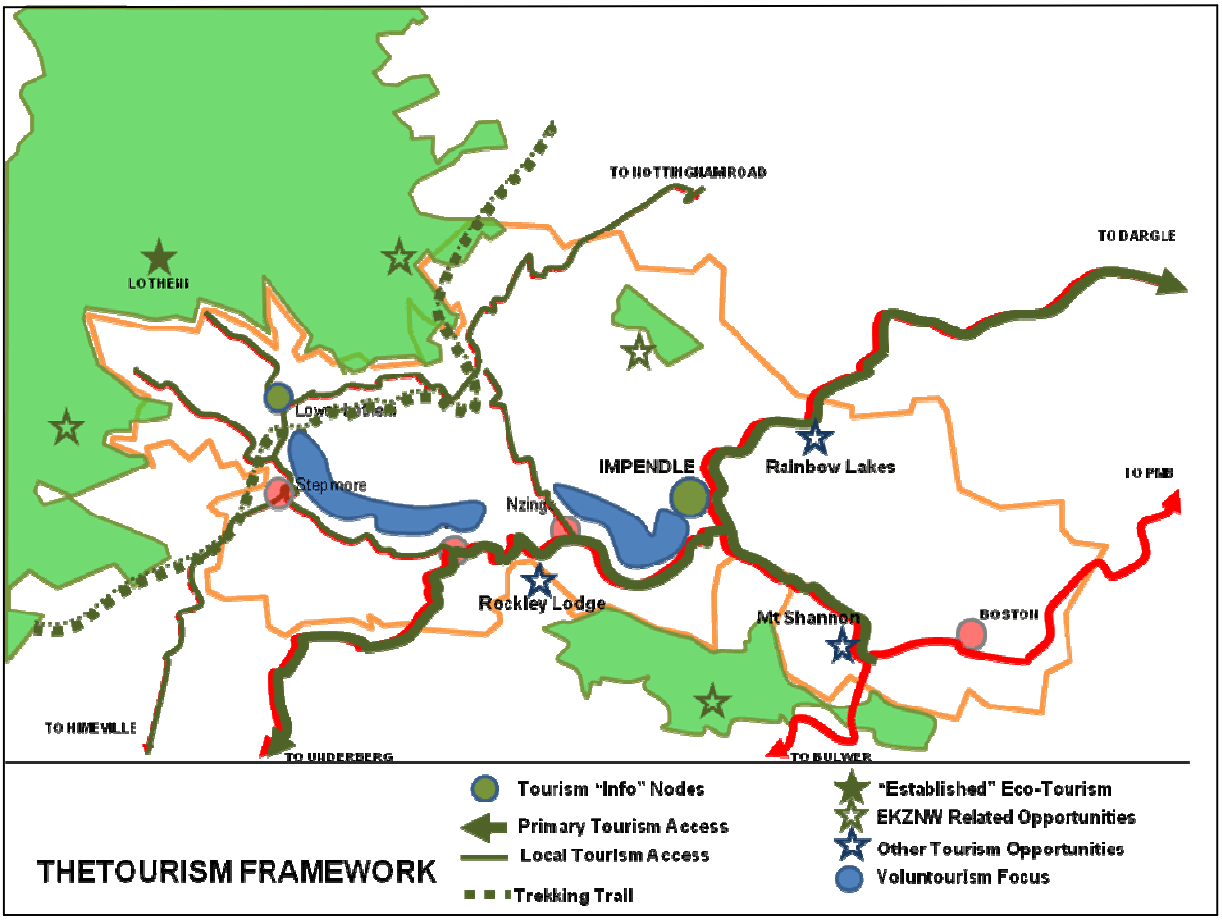


The proposed upgraded Eastern Cape – Underberg-Impendle-Dargle route will then form part of the 80km regional grid link within the Province with the Bulwer – Boston – Pmb link becoming part of the 40km network in between the primary 80km grid. This will mean Impendle is no longer a "cul-de-sac" on a minor road off the R617, but will have its primary node, Impendle town, plus two secondary nodes on a major inter-provincial transportation route. The multiplier effect of this upgrade, particularly for the business/tourism framework should be substantial.

Map 4: The Tourism Framework

This map picks up on all the nodal points and potential tourism facilities. Some of them exist but have low use levels. With the proposed increased regional access, it is anticipated that Impendle will no longer be seen as being at the end of a cul-de-sac, and will be valued as a place to visit with a wider range of tourism activities, some of them developing a niche market (eg voluntourism) for Impendle.

Map 4: The Tourism Framework

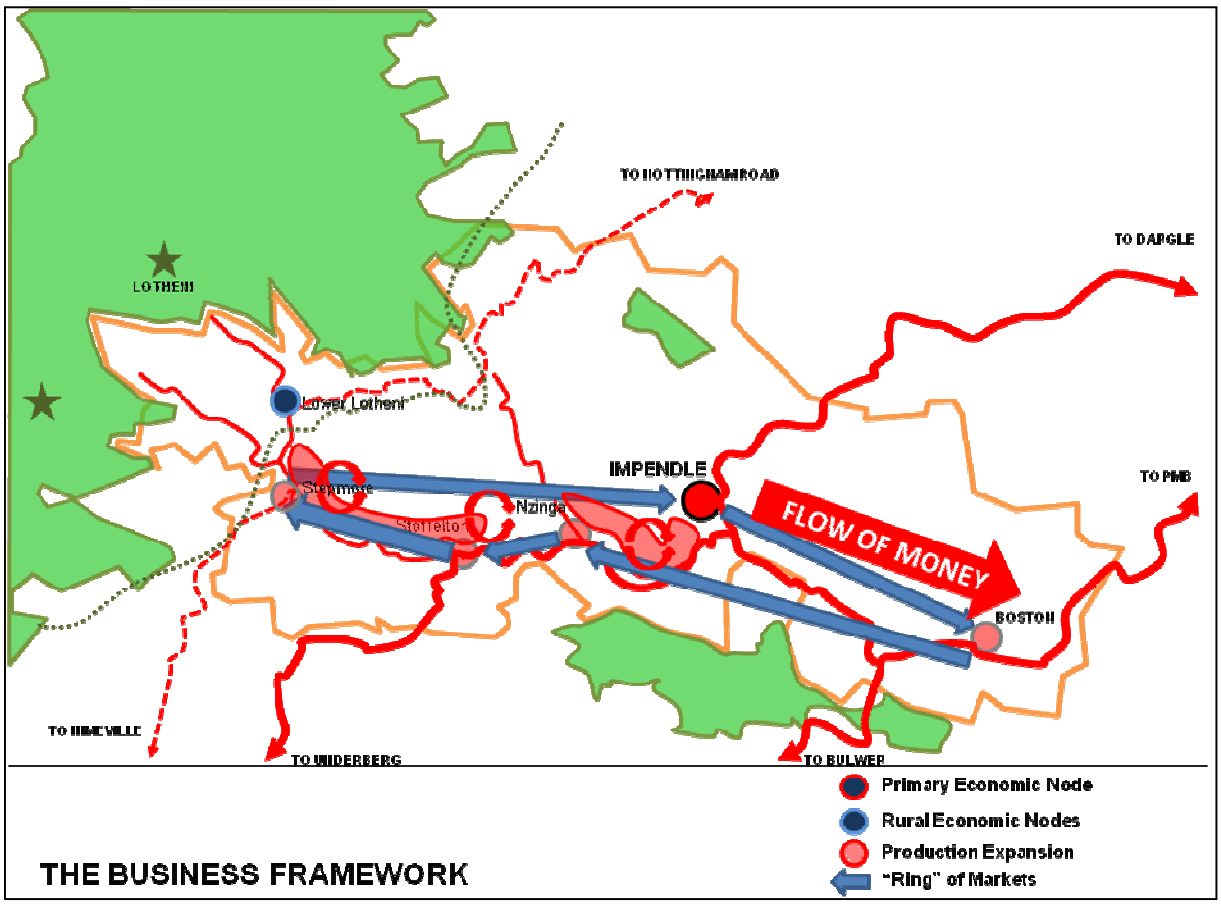


Lower Lotheni will provide a mini-gateway to the Vergelegen and Lotheni sections of the UDPWHS and provide for a tourism information node as well as for potential eco-tourism related local business opportunities. It is important to create a distinction between Lower Lotheni and Stoffelton and Nzinga. Lower Lotheni is closer to the Drakensberg foothills and is firmly within the buffer zone of the Park (see Map 2) whereas Stoffelton and Nzinga are on the edge of the buffer zone. This must therefore shape the municipality's development decisions on the type of land use activities that should be approved within the respective nodes.

Map 5: The Business Framework

The Business Framework focuses on the nodes and corridors and suggests a greater internal circulation of income, rather than all the resources leaking out to the surrounding areas, including Underberg and Pietermaritzburg. It focuses on the concept of a ring of periodic markets that local traders and entrepreneurs should develop.

Map 5: The Business Framework



This business framework links all the nodes within Impendle creating a much greater internal circulation of money that exists at present. Currently, most of those flows of money are directly out of the municipal area to Pietermaritzburg (Msunduzi) and Underberg (KwaSani). The ring of markets are created by strengthening each of the rural economic nodes. It must be emphasised again, that there are differences in focus between the four secondary nodes, with Lower Lotheni being a specialist eco-tourism node and Boston providing primarily agricultural support services.

CHAPTER FOUR: PERFORMANCE CRITERIA

It is important to note that there are at times seeming duplication of indicators between the three frameworks. This is deliberate in that firstly, it shows that each of the frameworks are dependent on each other and secondly, that each can be read on its own without the omission of important indicators, for example, for economic sustainability which are part of the accessibility framework.

4.1 ENVIRONMENTAL SUSTAINABILITY - INDICATORS

An indicator is something that helps you understand where you are, which way you are going and how far you are from where you want to be. An indicator is something that points to an issue or condition. Its purpose is to show you how well a system is working. If there is a problem, an indicator can help you determine what direction to take to address the issue. The following applies:

- Effective indicators are **relevant**; they show you something about the system that you need to know.
- Effective indicators are **easy to understand**, even by people who are not experts.
- Effective indicators are **reliable**; you can trust the information that the indicator is providing.
- Lastly, effective indicators are based on **accessible data** (indicators are quantifiable); the information is available or can be gathered while there is still time to act.

Sustainability indicators are not just a statement of what exists, they also show the municipality's vision of the future. Before time is spent gathering and reporting data for an indicator, it must be ensured that the indicator is relevant to the municipality's sustainability objectives. The latter could be defined in terms of a sustainability vision for the municipality, as follows:

> "By the year 2017, the Impendle municipality would have provided the majority of the people and households in Impendle with sustainable access to their social and economic development needs and basic services in a fully integrated manner and within a safe and healthy environment"

Considering the status quo of the municipality, the above vision is most likely to be best achieved through appropriate local economic development based on the natural resource base, taking advantage of the unique environmental and natural resource assets of the municipality. The following sustainability indicators address the municipality's sustainability objectives:

i. Land use

- Percentage increase in rural settlement outside of identified growth areas (development should be concentrated in or adjacent to existing urban areas)
- Percent of new housing projects outside of 500m radius of existing municipal services
- Percentage of tourism, mixed use, commercial and industrial land use (diversification of economy is seen as a positive)

- Number of development applications (diversification of economy is seen as a positive)
- Hectares of active and passive public open space, and parks and playgrounds in urban areas (building social relationships)
- Area of good and high potential agricultural land that has been converted to developed land (loss of important agricultural resources to non-agricultural development is undesirable; requires significant motivation)
- Remaining good and high potential agricultural land (the best options for agricultural development should be retained for agricultural production)
- Area of good and high potential agricultural land under active cultivation (the best options for agricultural development should be utilized for agricultural production)
- Number of agricultural projects active (agricultural expansion is seen as a positive)
- Total area in significant land-use categories[29] (optimal utilisation of opportunities on land)
- Hectares of wilderness and conservation areas, and privately owned properties under the biodiversity stewardship program (land use compatible with ecosystem goods and services objective for the municipality)
- Hectares of development non-compliant with buffer zone requirements of the Ukhahlamba Drakensberg Park World Heritage Site (importance of retaining World Heritage Site status)
- Percentage of non-negotiable areas within proclaimed conservation areas (land use compatible with ecosystem goods and services objective for the municipality)
- Percentage of non-negotiable areas within private game / nature reserves (land use compatible with ecosystem goods and services objective for the municipality)
- Percentage change in non-negotiable areas (transformation undesirable)

ii. Biodiversity

- Hectares of untransformed natural vegetation (importance for achieving conservation targets)
- Edge to area index of identified vegetation corridors (importance for achieving conservation targets)
- Survey of natural areas for important plant species (improved understanding of biodiversity priority areas)
- Population numbers of Oribi, Vultures, Crane and Blue Swallows (increases would be positive)
- Number of Vulture, Crane and Blue Swallow nesting sites (increases would be positive)
- Bird species diversity (increases would be positive)
- Amphibian and fish diversity scores in rivers and wetlands (increases would be positive)
- SASS score changes for stem rivers (downward trends would highlight decreases in biodiversity)
- Number of impoundments on stem rivers (detrimental to biodiversity objectives)
- Hectares of natural and restored wetlands (downward trends would highlight decreases in biodiversity)
- Hectares of alien plants (detrimental to biodiversity objectives)

iii. Water quality and quantity

- Remuneration received by communities for water production (payment for ecosystem goods and services)
- Lowering of water levels within boreholes (potential reduction in water quantity)

[29] Agriculture (incl. subsistence and commercial land use), conservation, tourism, commerce, industrial, and mixed use

- Changes in water quality within boreholes (potential reduction in water quality)
- Number of septic tanks and soakaways (potential water contamination)
- Percentage of streams comprising potable water not requiring treatment (sustainable rural livelihoods)
- Relative change in water quality between water entering stem rivers and leaving the municipality in stem rivers (potential water contamination)
- Catchment Integrity (impacts of transformation)
- Percentage transformation within 100m of rivers and wetlands (impacts of transformation)
- Hectares of natural and restored wetlands (downward trends would highlight concerns of reduced purification and sustained water availability)
- Area used for organic agriculture versus area used for chemical intensive agriculture
- Hectares of alien plants (detrimental to water production)

iv. Carbon sequestration and storage

- Remuneration received by communities for carbon credits (payment for ecosystem goods and services)
- Hectares of intact natural land lost to development (decrease in areas contributing to carbon dynamics)
- Hectares of land rehabilitated to intact natural (increase in areas contributing to carbon dynamics)
- Changes in capacity of sink to absorb or assimilate (increases are seen as positive)
- Changes in CO_2 emission per capita, relative to fair earth share (decreases are seen as positive)
- Changes in Greenhouse gas emissions measured in metric tons of carbon equivalents (decreases are seen as positive)
- Sediment volumes in storm water runoff (degradation of groundcover)

v. Soil indicators

- Average soil erosion on cultivated cropland as a proportion of tolerable rate (decreases are seen as positive)
- Hectares of land affected by soil erosion (preventing of further erosion; rehabilitation of existing erosion)
- Soil organic matter content (fertility and carbon storage improvements)
- Sediment volumes in storm water runoff (erosion)

vi. Environmental awareness

- Number of environmental education programs per ward
- Number of environmental education programs at schools
- Students passing environmental education test
- Number participating in farming courses promoting environmentally sound agricultural practises
- Percent population perceive pollution a priority

Environmental indicators not relevant to Impendle at present, but which require review in the medium to long term:

- Air quality
- Noise levels

- Traffic
- Urban storm water runoff
- Pest management

4.2 ACCESS / SPATIAL SUSTAINABILITY - INDICATORS

Management and Planning

- The SDF/SDMP specifies the role and function of each node and corridor with appropriate controls so that development is limited in sensitive areas and encouraged in areas on or close to the accessibility grid
- Land Use Scheme completed and detailed zoning and overlays aligned to broad land use parameters of the SDMP
- Alignment of IDP projects to the SDF
- Professional and Administrative system in place within the municipality to manage and process development applications in terms of the provisions of the SDMP/SDF and the LUMS, as well as the wider legal and policy provisions in terms of the Municipal Systems Act and the new KZN Planning and Development Act
- Service levels appropriate to location and status of settlements in terms of relation to the accessibility grid

Roads and Access

- Key link route upgrade between Eastern Cape and Nottingham Road through Impendle completed
- Road surfacing and upgrades appropriate to status and function of road
- Management of development along access corridors in keeping with nature of corridor – through route or activity corridor (LUMS ensures appropriate zoning and controls)

Awareness & Capacity Building

- Municipal staff aware of and understand the provisions of the SDMP and its implications for each of their own departments within the municipality
- Communities through their organisations (Tribal Authority structures, NGOs, CBOs, FBOs) understand what is meant by an SDF, and are aware of the relationship between the IDP and SDF and what the implications are regarding service levels for their own areas

4.3 ECONOMIC SUSTAINABILITY - INDICATORS

Indicators relating to the accessibility framework:

- Kilometres of all weather road provided as part of the regional accessibility corridors (measured against total required)

- Number of new signage boards provided (measured against total required)
- Kilometres of all weather road provided as part of local accessibility corridor
- Improvement in customer satisfaction relating to government services in primary node (Impendle Town)

Indicators relating to the land use framework:

- Number of new housing opportunities provided within the settlement edge (measured against previous years)
- Number of new housing opportunities provided outside the settlement edge (measured against previous years)
- Increase in number of small scale manufacturers on Municipal database
- Increase in number of registered home food gardens (Department of Agriculture)
- Number of natural resource harvesters trained / empowered (measured against previous years)
- Increase in area of land actively cultivated throughout the Municipality (measured against total area of land cultivated and targets to be established)
- Area cultivated and under some form of agricultural activity conforms to the environmental management parameters set out in the SEMP section of the SDMP

Indicators relating to the tourism sector:

- Number of small scale tourism ventures established / people employed directly in the tourism sector
- Number of volunteers (measured in bed nights) attracted to Impendle
- Number of tourists stopping at Tourism Info Centre(s)
- Kilometres of trekking trail established
- Kilometres of mountain biking routes established
- Number of support hubs (for trekking / mountain biking) established
- Increase in visitor numbers to formal EKZNW conservation areas related to Impendle

Indicators relating to the commercial sector:

- Number of periodic markets operational in the municipality
- Total number of market days per year
- Increase in satisfaction with commercial services provided in Impendle Town
- Local income circulation is increased

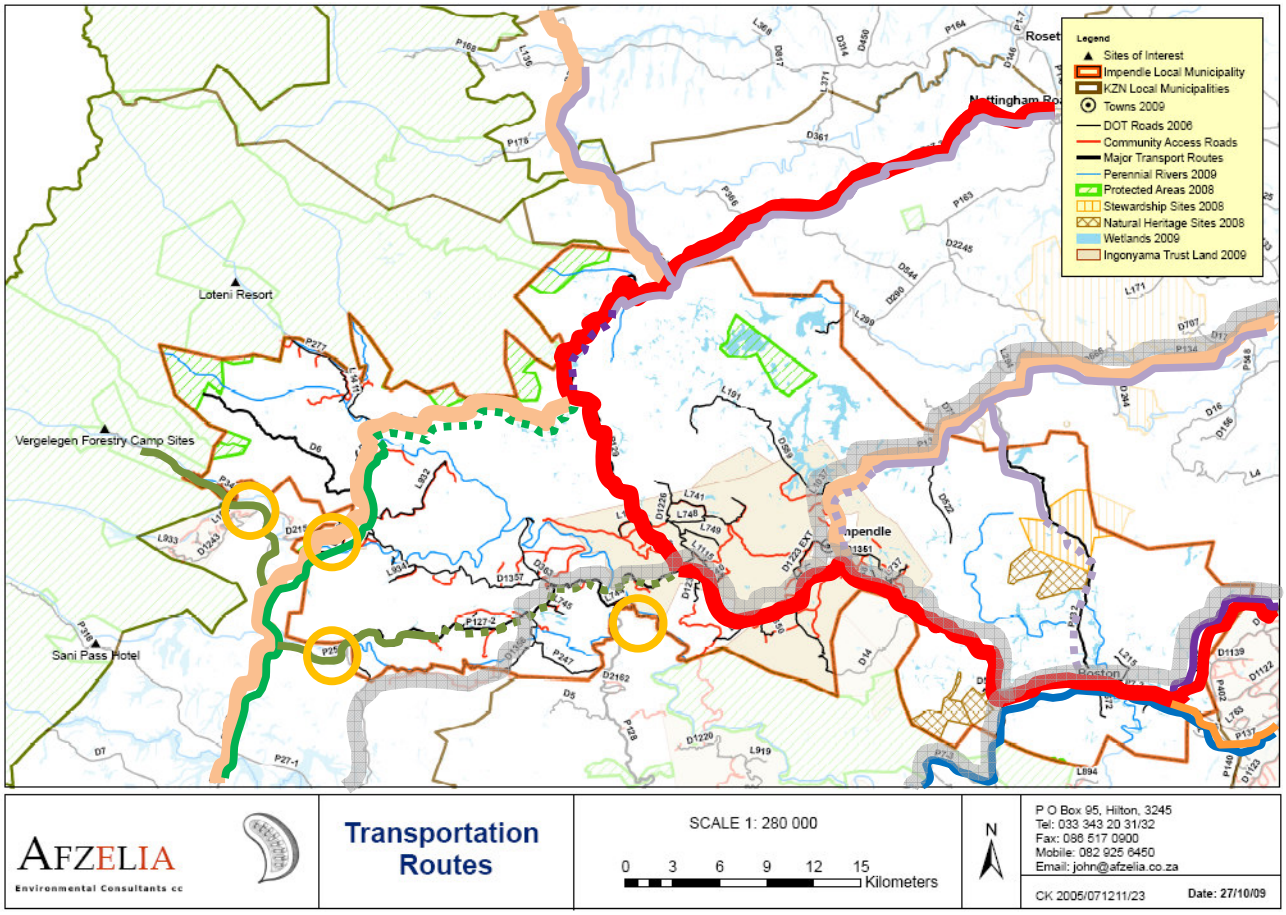
4.4 ALIGNMENT

4.4.1 District and Local Municipal Alignment

This section will indicate how the Impendle SDF fits in with the uMgungundlovu District SDF as well as with its neighbouring local municipality SDFs, namely, KwaSani, Ingwe, Mooi-Mpofana, Mngeni and Msunduzi. For reference purposes, the SDF maps for all of these municipalities are provided in Annexure 4.

Figure 23 illustrates a synthesis of the district and neighbouring SDFs. The discussion following highlights where there is alignment, and where there needs to be motivation for amendment of one or more of these SDFs to ensure logical and smooth alignment.

Figure 23: Aligning the neighbouring SDFs



KEY TO FIGURE 23: ALIGNING THE NEIGHBOURING SDFs

- Primary corridor – uMgungundlovu District SDF
- Secondary corridor – uMgungundlovu District SDF
- Primary corridor – KwaSani Municipality
- Secondary corridor – KwaSani Municipality
- Red flag areas: settlements on boundary of Impendle
- Primary corridor – Ingwe Municipality
- Tourism route – Mngeni Municipality
- Primary route – Mngeni Municipality
- Arterial route – Msunduzi Municipality
- Regional Access corridor – Impendle M.

The **Umgungundlovu District SDF** (2009-10) indicates three corridors which affect Impendle.

- Primary corridor running from Mooi River through Nottingham Road along the P27-3 to join the P28-2 and then circling around back towards Impendle and Boston turning at the Stepmore area
- Secondary corridors from Winterton along the P28-1 road which is the parallel road close to the Drakensberg foothills, becoming the P28-2 and then the P27-2 as it reaches Himeville and Underberg.

The other secondary route joins Impendle with the N3 through Dargle to Howick along the P130 which becomes the P134.

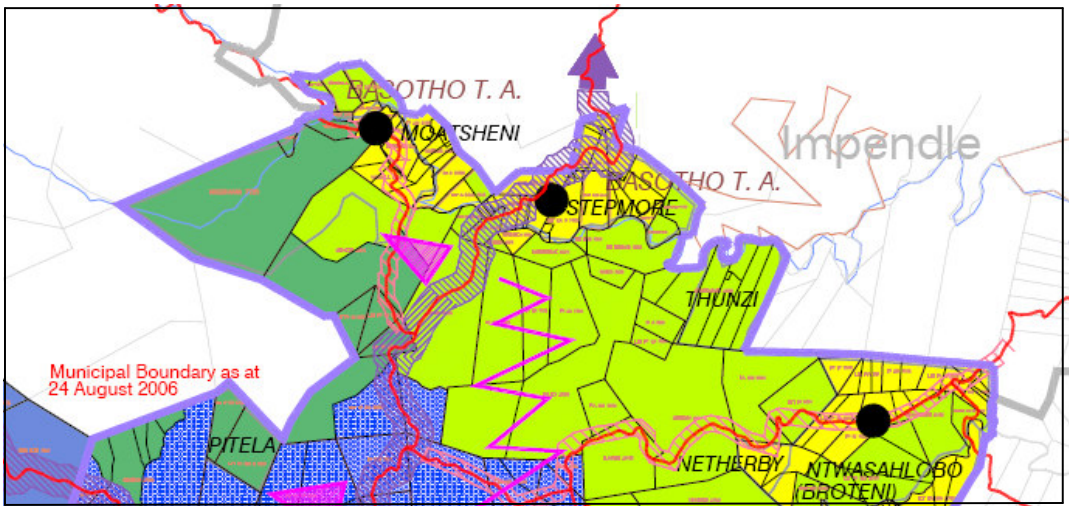
In addition, the District SDF indicates the protected areas, including the Umngeni Vlei; it identifies much of the rest of Impendle as "indigenous vegetation" with the exception of the area surrounding Impendle town down towards Nzinga and Stoffelton as being "rural/tribal settlements".

The **KwaSani local municipal SDF** identifies two corridors which are contiguous with Impendle:

- Primary corridor which runs from Swartberg – Underberg – Himeville through to Stepmore and into Impendle Municipality along the P27-2
- Secondary corridor which branches off from the Himeville-Stepmore route along the P252 which becomes the P127-2 to link up ultimately to the junction at Stoffelton.

The adjacent land uses in KwaSani indicate a Rural Settlement zone around Stepmore and Mqatsheni (yellow) (there is no through route at Mqatsheni into Impendle, the secondary corridor in KwaSani to Mqatsheni follows through to Vergelegen Nature Reserve within the UDPWHS). In addition, there is a Conservancy zone along the boundary between Stepmore and the corridor to Stoffelton (green). Along that corridor and next to the boundary is another rural settlement zone surrounding KwaSani's[30] satellite service node of Ntwasahlobo, which is close to the boundary with Impendle Municipality. Figure 24 illustrates this area.

Figure 24: The KwaSani-Impendle border, KwaSani SDF

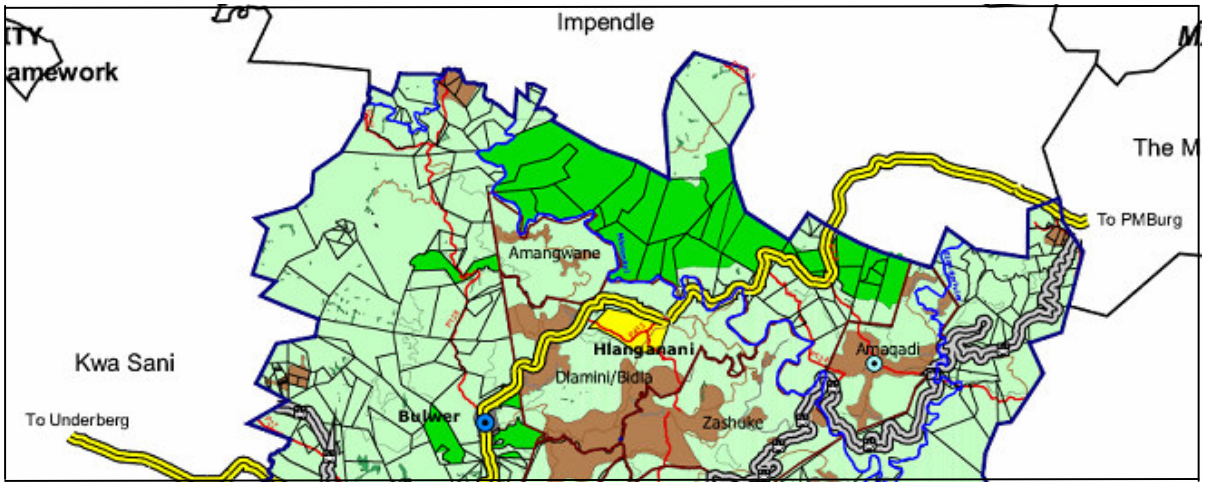


Ingwe Municipality has one primary corridor that links through Impendle to Pietermaritzburg along the P73 – P72 – P137 route of Bulwer – Boston – Pmb. It's adjacent land uses along the boundary with Impendle are agriculture / tourism with the Impendle Nature Reserve protected area forming the remainder of the

[30] There has since been agreement over what was a dispute about a boundary change between Impendle and KwaSani. Now, the whole of Stepmore, the KwaThunzi area and Netherby and Ntwasahlobo/Brotheni falls within Impendle Municipality. The revision of the KwaSani SDF is currently underway to reflect these changes. See Annexure 4 map reflecting boundary changes.

boundary. A traditional settlement zone borders Impendle (brown) close to the L744 junction with the Nzinga – Stoffelton route section. Figure 25 illustrates this area of the Ingwe SDF.

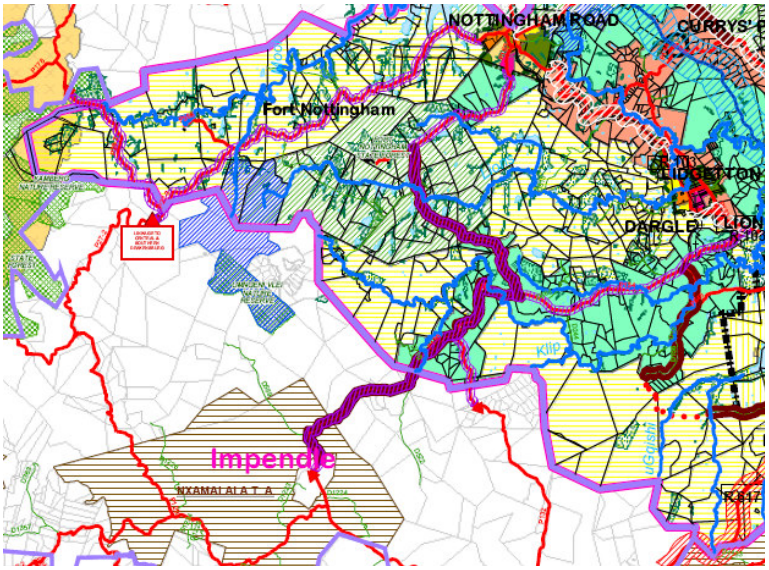
Figure 25: Ingwe - Impendle border, Ingwe SDF



The **Mngeni Municipality** borders Impendle along its entire north-eastern boundary. It indicates a number of routes / links that impact on Impendle. There is a tourism link which comes through from Lions River/Dargle area through on the P130 to Impendle with an additional branch down the P132 to Boston. The primary corridor from Howick through Boston on to Bulwer is common to Impendle and all neighbouring SDFs.

Figure 26: Mngeni - Impendle border, Mngeni SDF

In terms of land use zones, the light yellow area is zoned for agriculture and eco-tourism which forms the majority of the border area with Impendle. Following the tourism route from Dargle to Impendle is an agriculture – medium intensity tourism zone (light green). The striped overlay areas in the northern area of the joint boundary indicate areas of agricultural development (green) and headwater production areas (blue).



The other municipality which borders Impendle does so over a relatively short stretch of the boundary; Msunduzi in the south-east has a Traditional Authority area bordering Impendle (Ingonyama Trust) which has a mixture of rural residential, communal agriculture and urban agriculture zones along the boundary with Impendle. The only link route through to Impendle comes from Edendale (P137) to join the P135 Howick – Boston-Bulwer route.

The junction of these roads is just east of Boston. This is identified in the Msunduzi SDF as an arterial route.

Non-alignment

There are areas where there is, within the current suite of SDFs, a problem with alignment, particularly in terms of the hierarchy of corridors. In some cases, the corridors are given different terminology (eg. tourism route as opposed to secondary route), but the general intention is not so different that there are likely to be incompatible uses associated with the respective routes.

The major discrepancy lies with the District SDF primary and secondary corridors, particularly where they are shown as part of the scenic route parallel to and at the base of the Drakensberg foothills. In terms of the accessibility Model 4 (World Heritage Sites & conservation areas), there should be no such regional link in such close proximity to a world heritage site and within the buffer zone. The most status such a route should have is an eco-tourism or scenic route which also serves as a local connector for those farmers and residents living along the road. Its road alignment and surface characteristics should not be that of a district level primary or secondary corridor. This would encourage additional settlement along the route which goes against the objectives of the buffer zone and the provincial accessibility model. Currently it is a gravel route and should remain that way.

To reiterate what has been stated earlier in the report the proposed primary corridor for Impendle brings that regional link away from the sensitive buffer zone and places it in a position which runs it directly through a larger portion of Impendle and more importantly, directly through existing settlement areas. It will therefore provide better access for those settlement and facilitate the growth of the nodes along that route.

The KwaSani SDF also shows its primary route extending from Himeville through Stepmore and along this scenic route.

This lack of alignment on both primary and secondary corridors needs to be addressed between the neighbouring district and local municipalities. In addition, Impendle needs to take cognisance of settlement areas which have been zoned on or very close to the boundary with Impendle where expansion may intrude into Impendle where there is no corresponding node or settlement zoning and so potentially create development control problems. These areas have been circled in Figure 23 as red flag areas.

4.4.2 National & Provincial Frameworks Alignment

The alignment with national and provincial frameworks, namely the NSDP, PSEDS and PGDS has been discussed in section 3.2.3 repeated in italics below. The proposed Impendle SDF has aligned itself with the principle of only allowing a tourism trail along the foot of the Drakensberg and moving the regional corridor away from the mountains and through the main activity centres of Impendle.

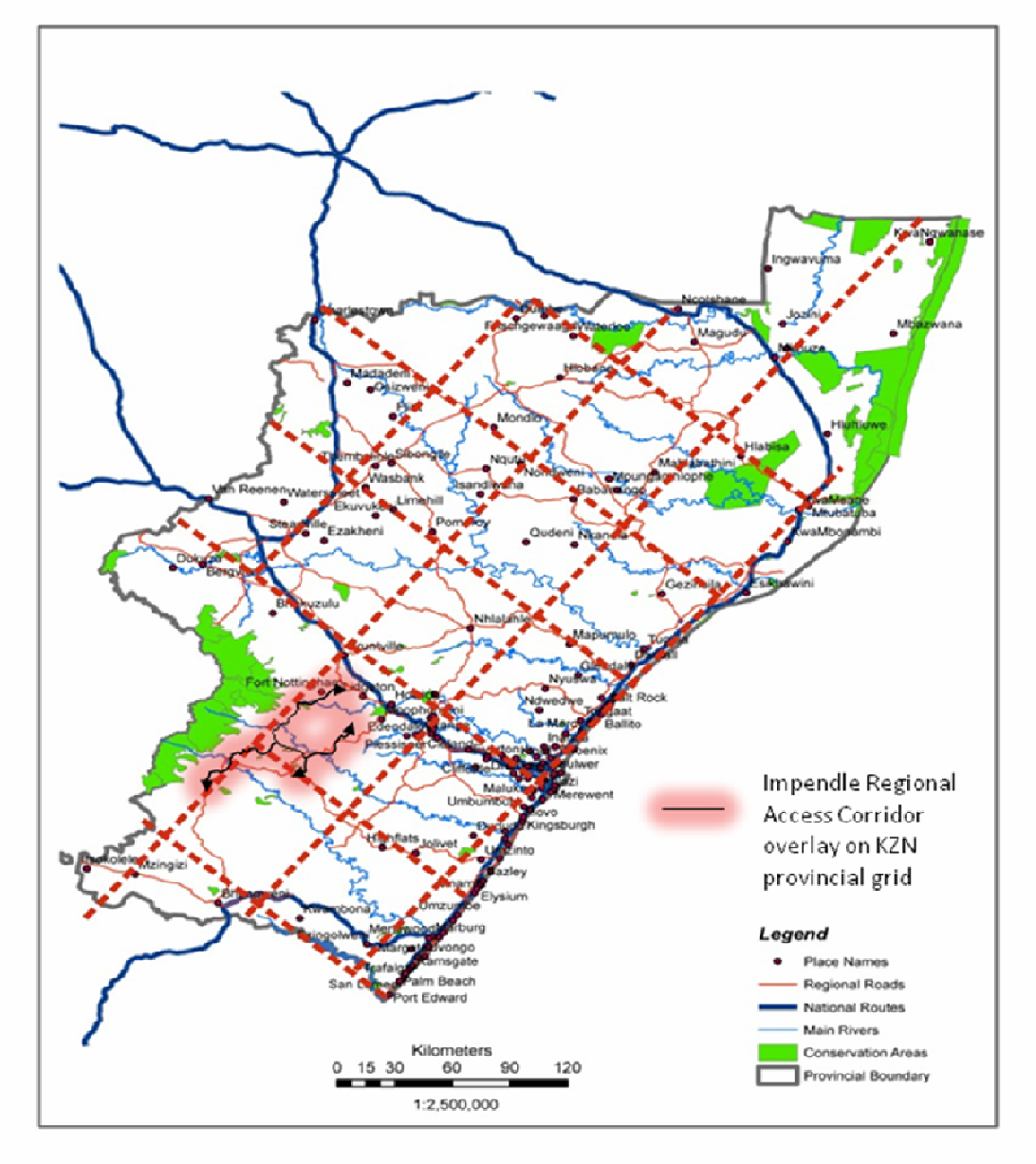
The spatial framework identified in the PSEDS will be used to underpin the SDF component for Impendle. The implications are that owing to Impendle's relatively inaccessible location in KwaZulu-Natal and to its essentially rural character the following applies:

- *there should be a tourism corridor along the foot of the Drakensberg;*

- *there should be an agricultural activity corridor leading from the regions' main centres through Impendle to nodes in KwaSani (P127-2);*
- *there is a scheduled possible upgrade of the P130 from Lions River via the Dargle to Underberg and from there via Matatiele into the Eastern Cape involving the final alignment of SC2.*

In conclusion, by adjusting Impendle's accessibility framework to comply with the PSEDS, will result in the need to revise the district and neighbouring local municipal SDFs.

Figure 27: Impendle Regional Access Corridor overlay on Provincial Accessibility Grid



CHAPTER FIVE: IMPLEMENTATION

5.1 INSTITUTIONAL CAPACITY – MANAGEMENT OF THE SDMP

5.1.1 Legal and policy directives

Both the development and implementation of this municipal SDF combined with the Environmental Framework and Local Economic Development Framework are the result of legal directives and policy guidelines from both national and provincial levels. These are:

- Legislated directives
  - The Municipal Systems Act (no 32 of 2000)
  - The Municipal Structures Act (no 117 of 1998)
  - Intergovernmental Relations Framework Act (no 13 of 2005)
  - Development Facilitation Act (no 67 of 1995)
  - KZN Planning and Development Act (no 6 of 2008).
- Policy directives
  - NSDP
  - PGDS
  - PSEDS
  - Provincial Spatial Development Guidelines 2009
  - Drakensberg Approaches Study
  - SCAP : Special Case Area Plan for the Drakensberg
  - Golders Ass report on ecosystem goods and services
  - Buffer zone policy

All of these have been discussed in greater detail in Chapter 3 of the Status Quo Report of the Impendle SDMP.

The existing planning legislation (Town Planning Ordinance and the KwaZulu Land Affairs Act) has been superseded by the new Provincial Planning and Development Act during 2010. The new Act will serve to restrict functionality of the Development Facilitation Act[31]. Once enacted, this new legislation will result in the devolution of the majority of the spatial planning powers and functions to local municipalities from the Department of Local Government and Traditional Affairs.

The box below illustrates each of the functions that needs to be performed at local municipal level in terms of these various pieces of legislation.

[31] The validity of the Development Facilitation Act is currently subject to a Constitutional Court challenge

<table>
<tr><td>SPATIAL PLANNING

The spatial planning function in local government will need to include the following:

• the preparation of spatial planning guidelines;
• the preparation of spatial development frameworks;
• the preparation of land use schemes;
• processing statutory spatial planning applications in terms of the new Planning and Development legislation in KwaZulu-Natal;</td><td>STRATEGIC PLANNING

Municipalities are required to prepare and annually review IDPs and associated sector plans with full community participation in the planning process. Provincial Departments and parastatal bodies need to actively participate in the IDP process and these plans also need to be aligned to the PGDS and NSDP. IDPs and the associated sector plans need to be co-ordinated within and between a “District Family of Municipalities” to ensure alignment.</td></tr>
<tr><td>DEVELOPMENT ADMINISTRATION

Based on the new Planning and Development legislation in KwaZulu-Natal local government will assume responsibility for the processing of land development applications which are currently located in the following legislation including: Development Facilitation Act, 1995 (Act No 67 of 1995), the Town Planning Ordinance, 1967 (Ord. No 49 of 1967), the KwaZulu Land Affairs Act, 1992 (Act No 11 of 1992) and numerous other statutes – but will fall under the KZN Planning and Development Act (Act No 6 of 2008). Development Administration oversees the implementation of development control measures (statutory functions).</td><td>PERFORMANCE MANAGEMENT

The focus of this component of the development planning function is to facilitate the establishment and operation of organisational performance management systems, based on the IDPs, within all municipalities. The purpose is to establish a functional monitoring, evaluation and reporting framework that will facilitate effective oversight and the production of the Annual Municipal Performance Report</td></tr>
<tr><td colspan="2">INFORMATION MANAGEMENT / GIS

Effective planning is dependent upon readily available up to date information and therefore requires:
• Information in digital and hard copy format;
• Provision of a mapping service (GIS) including an interactive internet mapping facility that is linked to the Provincial Development Planning website.
• The implementation of sustainable development information systems including GIS and the DIMS (District Information Management Systems);
• Supporting development administration procedures for statutory planning in digital format
• Digital archive that offers a comprehensive variety of information including books, journals and reports particularly related to Development Planning; and
Desktop publishing service that supports Development Planning in the compilation of user-friendly brochures and other media on development information.</td></tr>
<tr><td>HOUSING

Municipalities have a responsibility to ensure that housing for residents is adequate and therefore must address any housing backlogs through the state housing programme.</td><td>ENVIRONMENT

Municipalities have a duty to comply with the provisions of the National Environmental Management Act (no. 107 of 1998)</td></tr>
<tr><td>LAND REFORM

Each municipality has to ensure that it meets the national land reform objectives and to this end, must prepare a land reform, or Area Based Plan to indicate how this will be done.</td><td>BUILDING INSPECTIONS AND CONTROL

The National Building Regulations require the municipality to monitor building / housing standards and the planning legislation requires the monitoring and control of illegal developments.</td></tr>
</table>

5.1.2 Institutional capacity

Many smaller rural municipalities like Impendle Local Municipality have limited planning capacity and high turnovers of staff. This makes it difficult for them to both develop and implement the various levels of plans that they are required by law to produce. These limitations are being addressed through the establishment of shared services for the development planning function between the Umgungundlovu District Municipality and its constituent local municipalities. The aim is for municipalities to share services at district level in order to optimize limited resources and thereby enhance the quality of planning and development services provided in these areas.

The table below illustrates the current institutional structure concerned with development planning in Impendle Municipality:

Table 1: Current development planning capacity in Impendle Municipality

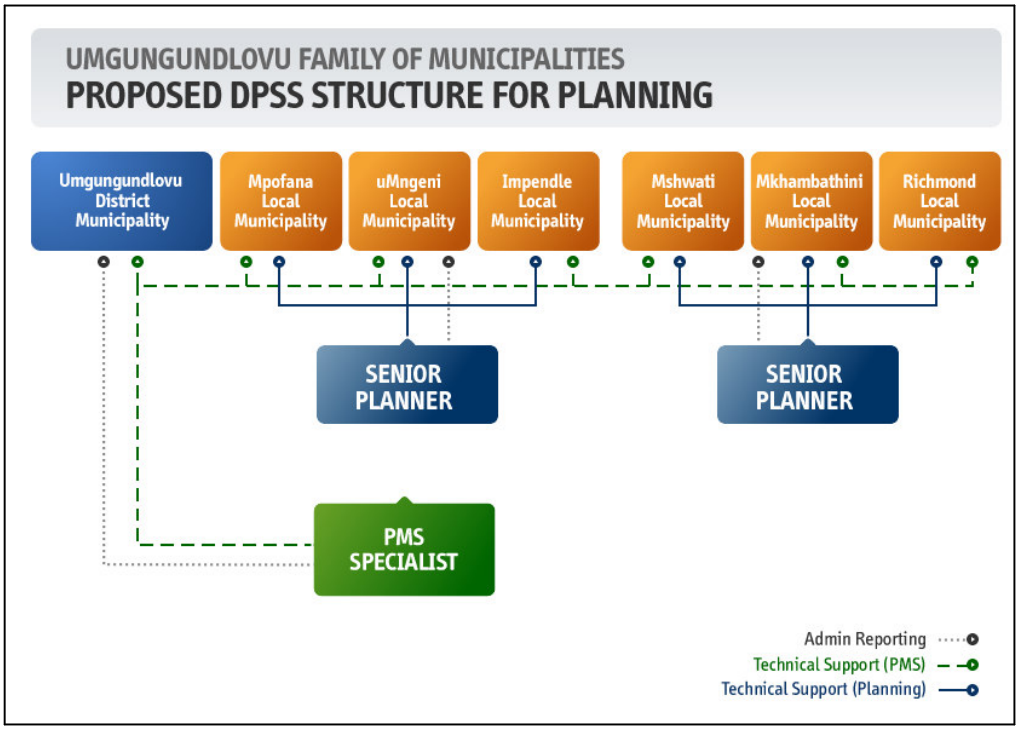
DEVELOPMENT PLANNING FUNCTIONS	DESIGNATED POSTS - IMPENDLE	FILLED OR VACANT
Strategic Planning (IDP)	Planner	Filled
Spatial Planning (including statutory)	Senior Planner (new post)	Vacant
PMS	-	-
Planning Technicians	Planner	Filled (same person as for IDP)
LED Planners	LED officer	Vacant
Development Planners	-	-
Planning Administration	Development administrator (new post)	Vacant
Building Inspector / Plans Examiner	Building control officer (new post)	Vacant
	Building Inspector (new post)	Vacant
GIS	-	-
Housing Officer	-	-

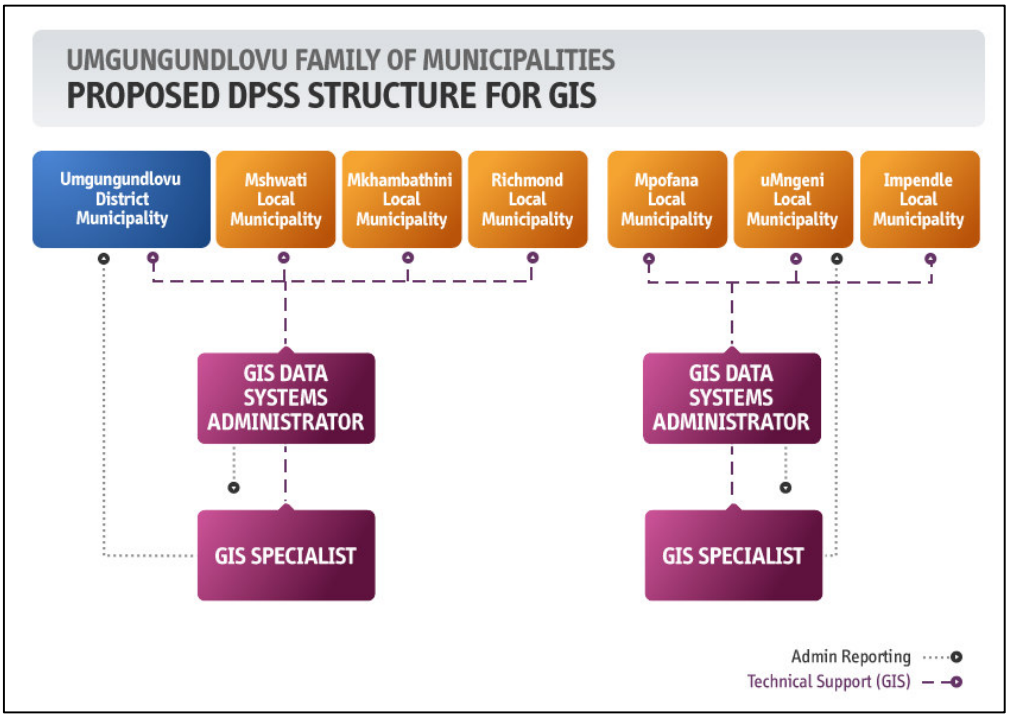
While the intention is to build up more in-house capacity with the creation of new posts, this capacity does not currently exist, and nor will it be sufficient to cover all that is required within the new legislation, particularly when the LUMS is developed and the statutory planning function is required to monitor and control development in all the rural settlements and proposed urban nodes within Impendle.

Figure 28 illustrates the proposed DPSS structure for uMgungundlovu.

The Shared Service will therefore make available one senior planner whose professional planning services will be shared by Mpofana, uMngeni and Impendle local municipalities. This senior planner will be physically located in the uMngeni Municipality. This senior planner will deal mainly with spatial planning and development administration support functions including the development and implementation of the LUMS. The DPSS senior planne, working closely with the Impendle planning staff will develop the land use management scheme for Impendle (management areas and rural) and establish and train appropriate local structures to take on support to the municipality in implementation of the Schemes.

Figure 28: Proposed Development Planning Shared Service Structure for Umgungundlovu family of municipalities[32]





[32] Impendle Municipality: DPSS Business Plan, 2009

In addition, a PMS specialist, located in the District office in Pietermaritzburg, will be available to provide expertise to six local municipalities within uMgungundlovu on performance management systems. uMsunduzi Municipality is the only one which has not joined the DPSS for uMgungundlovu.

For the GIS function, Impendle will be able to draw upon the services of a GIS Data Systems Administrator and a GIS specialist, both located in uMngeni Municipality and shared also with Mooi-Mpofana Municipality.

5.1.3 Systems and structures for the implementation of the SDMP

This SDMP (Land Use Management Schemes), which combines spatial, environmental and economic planning components, forms part of the municipal IDP which governs capital and operational expenditure within the municipality. The municipal staff together with the political decision-makers have to ensure that the objectives of the SDMP inform their decision making on development and planning issues, and that the key projects which are essential to make this SDMP work, are incorporated into the budgetary cycles of the municipality or other relevant level of government.

The Municipal Organogram – functions related to the SDMP

The organogram below indicates the main functional divisions within the Impendle Municipality, detailing which department is responsible for which activities.

The Director: Infrastructure and Planning Services is responsible for all three sectors: spatial planning, LED and in as much as it relates to planning and development, the municipal environmental management plan or strategic environmental assessment.

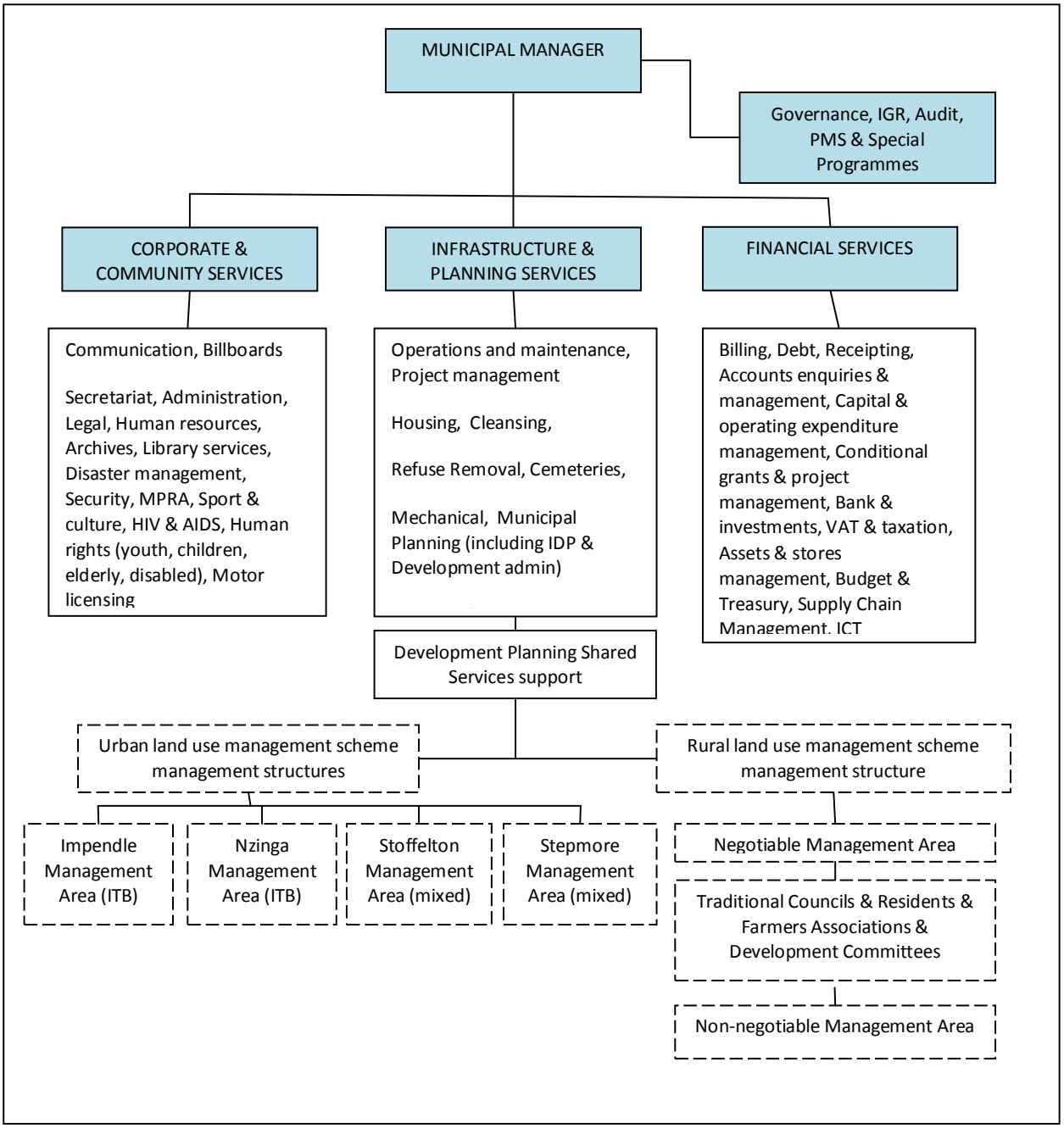
There are additional departments at provincial level which assist with various programmes such as the Department of Agriculture with LED programmes related to agriculture, and the Department of Social Development who assist with a number of income generating projects in the municipality.

Most important, the Department of Agriculture is working in Impendle on the Food Massification programme. This programme seeks to promote agricultural development along the routes and corridors where small scale or emerging farmers have improved links to inputs and markets because of their proximity to transportation routes. This ties in strongly with SDF principles identifying corridors for development.

The Department of Local Government and Traditional Affairs has also assisted through funding projects such as the Thusong Services Centre (Impendle town) and the revitalization of LED projects through the Municipal Assistance Programme.

The Corporate and Community Services Department within the Municipality has responsibility for environmental health which includes the enhancement of environmental health, keeping Impendle clean through refuse removal, assisting DAEA with the removal of alien invasive plant species. It also has a strategy to stimulate settlement patterns that will protect natural resources.

Figure 29: Impendle Municipal Organogram


MUNICIPAL MANAGER
Governance, IGR, Audit, PMS & Special Programmes
CORPORATE & COMMUNITY SERVICES
INFRASTRUCTURE & PLANNING SERVICES
FINANCIAL SERVICES
Communication, Billboards
Secretariat, Administration, Legal, Human resources, Archives, Library services, Disaster management, Security, MPRA, Sport & culture, HIV & AIDS, Human rights (youth, children, elderly, disabled), Motor licensing
Operations and maintenance, Project management
Housing, Cleansing,
Refuse Removal, Cemeteries,
Mechanical, Municipal Planning (including IDP & Development admin)
Billing, Debt, Receipting, Accounts enquiries & management, Capital & operating expenditure management, Conditional grants & project management, Bank & investments, VAT & taxation, Assets & stores management, Budget & Treasury, Supply Chain Management, ICT
Development Planning Shared Services support
Urban land use management scheme management structures
Rural land use management scheme management structure
Impendle Management Area (ITB)
Nzinga Management Area (ITB)
Stoffelton Management Area (mixed)
Stepmore Management Area (mixed)
Negotiable Management Area
Traditional Councils & Residents & Farmers Associations & Development Committees
Non-negotiable Management Area

Source: IDP, p. 69

Proposed land use management scheme structures

Based on the findings of the SDF the following recommendations are noted in relation to land use management systems and structures:

- Impendle Municipality forms part of the Umgungundlovu Development Planning Shared Service.
- Impendle will be responsible for implementation of the conditions associated with land use management and development control in its area of jurisdiction from April 2010 in terms of the PDA.
- In order to give effect to the terms and conditions contained in the PDA Impendle requires that a LUMS be prepared which is based on the SDF.
- In order to operate effectively recommendations are noted in the SDF concerning the implementation of land use management in both rural and urban areas of the province.
- Urban areas:
    - A Management Area is defined as a cohesive urbanising area with an economic, historical, cultural-traditional and topographical base such as Nzinga.
    - Urban land use management involves establishing the principle of a dedicated management structure for each Management Area answerable to the Planning Section of the Municipality. Four management areas have been identified for Impendle comprising land fully owned by ITB, a mix of private, ITB and state owned land and land under private ownership. Land use management systems and sub-structures appropriate to each of these areas need to be investigated and developed.
    - These structures will be responsible for the day to day administration of the land use administration of the area in terms of LUMS conditions formulated by the DPSS. Administration will be overseen by the DPSS.
- Rural land use management in rural areas should fall under one system of land use management and control to be administered centrally by the Municipality possibly supported by Traditional Councils, Landowners and Farmers Associations and/or Ward Development Committees.

5.2 THE MUNICIPAL LUMS FRAMEWORK

5.2.1 Broad Principles and policies

The most critical implementation element is the drawing up of a Land Use Scheme. This Scheme must do the following:

- Provide an appropriate set of detailed zones and controls to ensure that the **wilderness landscapes** maintain their wilderness character and function. This is critical for the sustainability of biodiversity

and water catchment (production) functions. The controls within the buffer zone of the UDPWHS, although largely covering the rural landscape, are critical to ensure the continued integrity of the wilderness landscape and to protect potential dam sites.

- Provide an appropriate set of detailed zones and controls to ensure that the **rural landscape** maintains its rural character and function. This must also incorporate any environmental overlay layers which will ensure that the biodiversity corridors are maintained (non-negotiable areas – refer to Figure 11). The rural landscape will essentially comprise two main elements:
    - **Rural settlement landscape**: these areas are the scattered settlements found mainly in the south and south-west of Impendle where the residents still retain strong ties to the land, to the extent that they rely on some form of agricultural activity. Land use controls must take cognisance of the economic needs of the residents in these settlements and through this, prevent further sub-divisions which will not only destroy the rural character of the settlements, but also compromise their function as smallholder agricultural settlements. These rural settlements must also be contained within an "urban edge" so that they do not continue to sprawl and take up arable land. The controls within this urban edge, unlike for the nodes, must not allow for densification and must provide for appropriate levels of service provision.
    - **Rural agricultural landscape**: this will comprise arable lands and grazing lands and cover both communal, small scale and commercial agricultural practices. It is critical here that the high to medium potential arable land is retained as much as possible.
- Provide an appropriate set of detailed zones and controls to ensure that the **urban landscape** has a distinct character and function. This will include defining an "urban edge" around each of the nodes, allowing for future expansion, but keeping in mind that a much greater degree of densification is necessary which will not only enable more cost-effective service provision, but will assist in preventing the outward spread of settlement onto valuable agricultural land. With the exception of Impendle town, these nodes will provide a focus for new developments. The LUMS must consider not only the function of each node (as set out in this SDF), but also its character by paying attention to design elements. The SDMP has been particularly strong in emphasising the importance of the municipality's natural environment, not only for biodiversity and for the ecosystem goods and services it provides, but also to support the objective of encouraging and expanding the eco-tourism industry in the municipality. It makes sense, therefore, to pay equal attention to the built environment as they are two sides of the same coin. Tourists who, it is hoped, will be passing through and visiting Impendle in ever greater numbers once the proposed regional access route is upgraded and functional, will be discouraged by an unattractive built environment. For many tourists, it may mean the difference between them stopping and staying in Impendle to explore its assets more fully, or just continuing on to the next destination. While a node such as Lower Lotheni is intended to be a "tourism gateway" node, in effect, all the settlements in Impendle can be considered "gateways" which should draw people in to stay, rather than just pass through. These nodes must have appropriate service levels which take cognisance of their function (eg. Lower Lotheni as a tourism node and Boston as an agricultural service centre node), but also provide an incentive for residents in the rural settlements who are not engaged in any agricultural activities, to move into the nodes.

- Provide for **overlays** that will support the business and economic frameworks (eg. route overlays that control the development along these corridors into activity and through route sections), as well as the environmental framework. There are also a set of management overlays for four areas in Impendle which are focused on the commercial/service nodes in the municipality.

- Provide for a strong **public participation and capacity building component** within the LUMS. The size of the municipality and the relative remoteness of some of the settlements will make it difficult to monitor the LUMS. Obtaining support and buy in from communities because they can picture the potential benefits for themselves of complying with certain land use controls, will assist greatly in promoting compliance. In addition, the councillors need to really understand and support the LUMS as a means of achieving the kind of vision they have outlined in their IDP and this SDMP. For this capacity building component, it is important that the municipality refers to, and makes use of, the Provincial Spatial Planning Guideline 7 which contains communication and knowledge transfer processes.[33]

The 2009/10 IDP review does specify one of its key performance areas as the management and drafting of LUMS for Impendle Municipality but there are no costs assigned to the project.

5.2.2 Spatial design concepts urban areas (nodal development)

The broad principles that should guide the development of the LUMS have been set out above. This section briefly examines each of the nodes and sets out some ideas as to how each could be planned and developed based on inputs provided in the Provincial Spatial Planning Guidelines (2009).

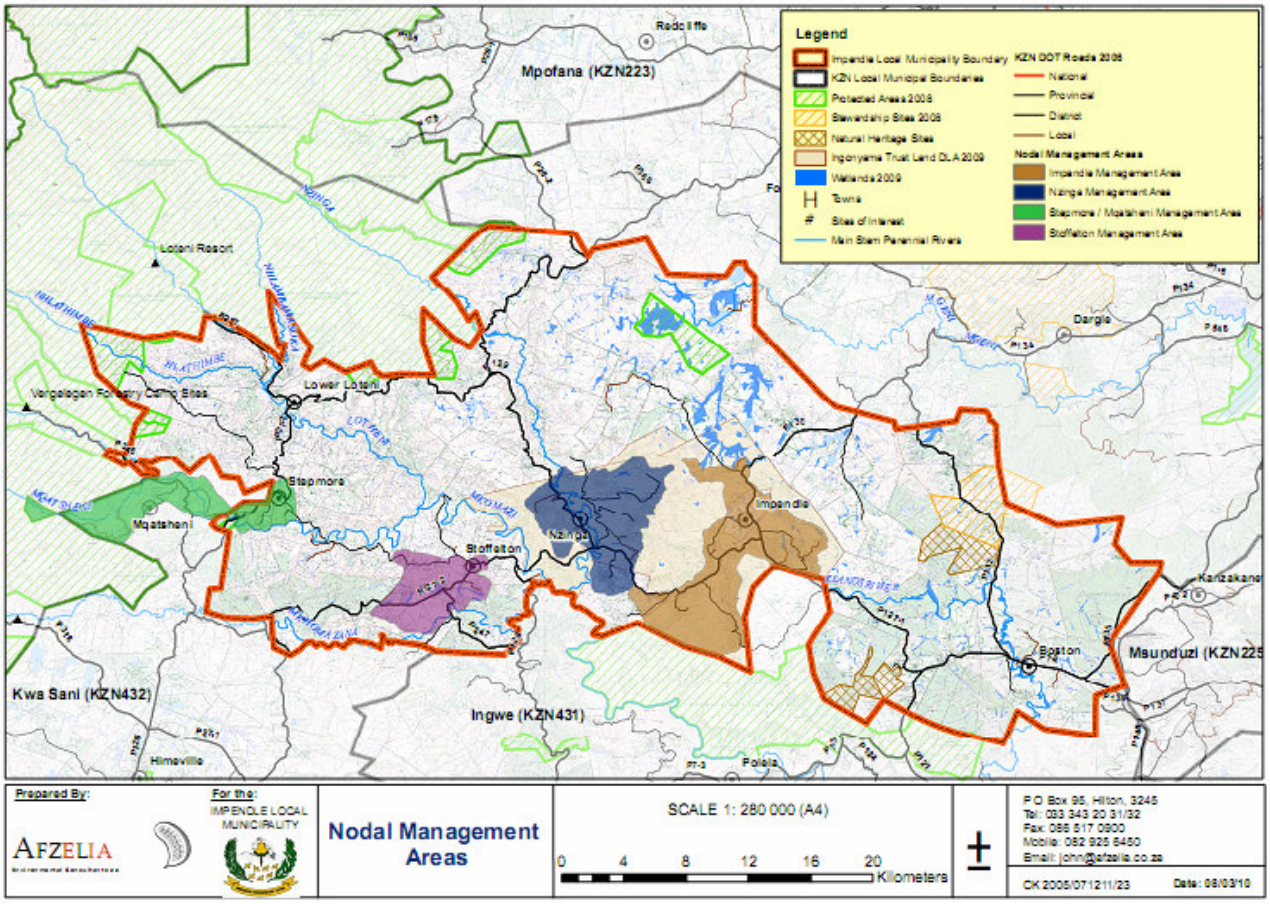
The nodes are described as follows:

- Primary node : Impendle town
- Commercial / service nodes : Nzinga, Stoffelton, Stepmore
- Tourism node : Lower Lotheni
- Agricultural service node : Boston

Four of these nodes, viz. Impendle, Nzinga, Stoffelton and Stepmore are the focus of "management areas" given their location and the proximity of other rural settlements which are linked functionally (to varying degrees) to the identified node.

[33] Taylor, J., Davis, R. and Walker, D., 2009, Communication and Knowledge Transfer Processes in Spatial Planning in the uThukela Region, Provincial Spatial Planning Guideline 7, July 2009

Figure 30: Location of management areas



The next section provides the following for each of the nodes and management areas:

- Spatial concept
- Map showing management overlay of the node
- Strategic Assessment which integrates the issues from the three layers: spatial economic and environmental as per the table template below

COMPONENT	OPPORTUNITIES	CONSTRAINTS	CONFLICTS	STRATEGIC CONTROLS
SPATIAL				
SOCIO-ECONOMIC				
ENVIRONMENTAL				
GOVERNANCE				

The tables highlight the opportunities, constraints and conflicts (existing and potential) for each of the nodes and management areas. These provide an outline of the method followed in order to arrive at the last column which sets out broad strategic controls which provide the framework for land use schemes and ultimately the implementation of land use management and associated projects in the municipality.

Primary node : Impendle Town and Impendle Management Area

Statement of Intent / Spatial concept

Impendle town does, and will continue to function as the primary administrative node for the municipality, as well as further develop as a multi-functional service centre for business / commercial and residential purposes. It is currently a relatively low density town. Provision needs to be made to define the urban edge of the town, taking into account realistic growth projections. Densification of all land uses – business and residential, must take place within that urban edge so the town becomes more efficient economically and is more cost-effective to service. Impendle is an established, proclaimed town with an existing draft scheme.

i. Primary node in the municipality

ii. Impendle town forms an integral part of the wider Impendle Management Area

iii. Focus on residential, services, tourism and retail development in the town and on low profile residential development and agriculture in the remainder of the Management Area

iv. Promote a mix of low, medium and upper income housing developments on the western side of the existing town centre

v. Link the residential and commercial area of the town with the surrounding landscape : retain a green belt from the town through to the mountain in the west

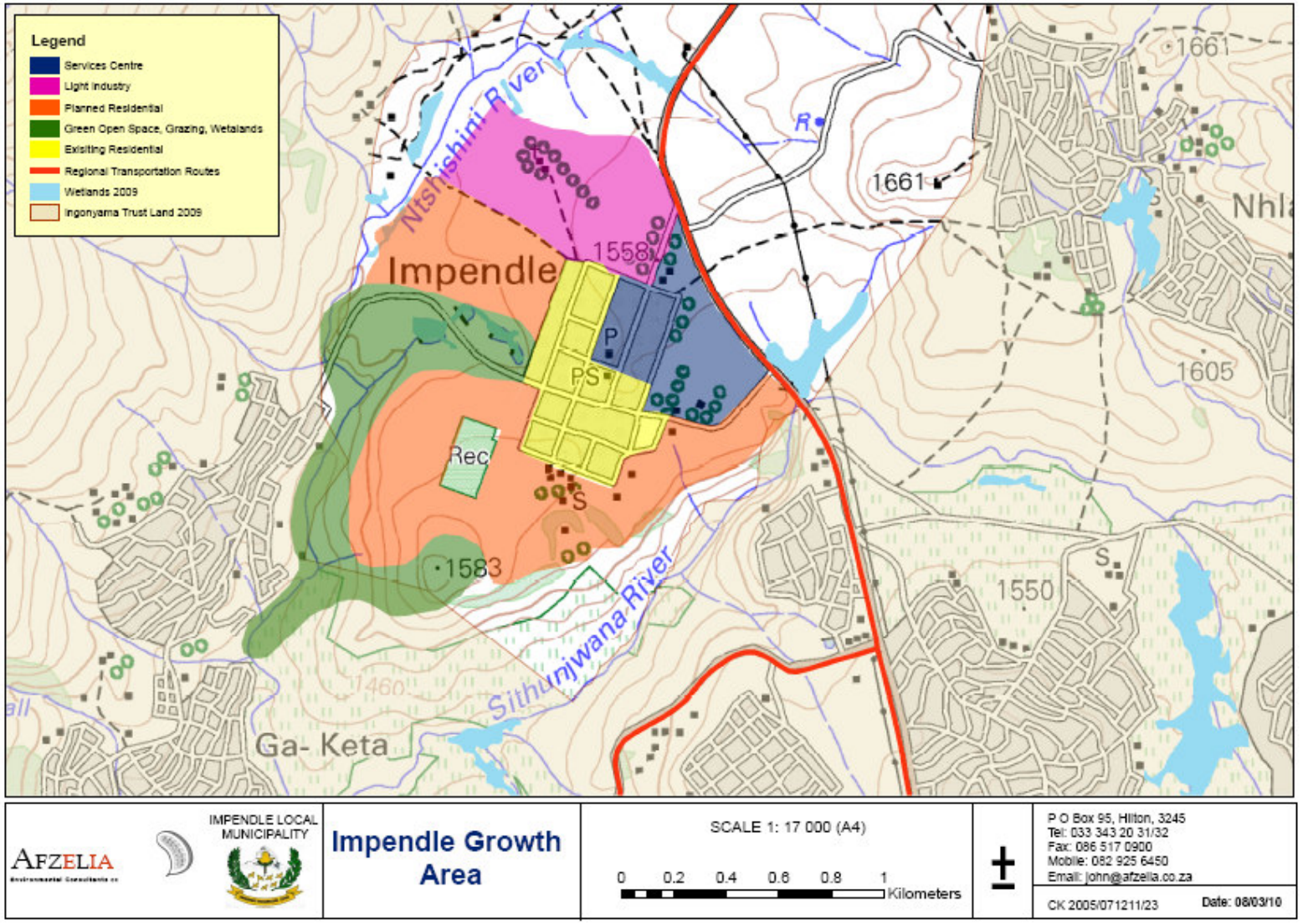
vi. Identify opportunities for small scale processing and manufacturing (e.g. saw mill and joiners) to the north of the town centre with access to the main road

vii. Promote the establishment of a retail complex on the north eastern side of the town

viii. Link the retail area with a tourism node to the east of the commercial area. This should adjoin the main road with convenience facilities, hospitality outlets and small retail facilities for curio sales.

ix. The area to the east of the road should remain greenbelt to retain the rural outlook of the town and retain landscape appeal for tourists passing through the area.

Figure 31: Impendle Town node



Impendle Management Area: Strategic Assessment

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• Location on the proposed regional access route • Historical / existing administrative centre • Existing planned and serviced centre • Internal space within Impendle for densification	• Limited future planning for expansion of commercial and residential areas • Historically peripheral area • Current urban edge does not provide for expansion of residential area • Environmental – wetlands and slopes (Impendle Mountain)	• Number of large, scattered settlements surrounding Impendle, but not part of the town itself – they have more residents than Impendle, yet are "rural" • High value agricultural land threatened by settlement – undefined edges around rural settlements	• LUMs required to define controls on the different land uses envisaged in the town • Define urban edge initially for the town of Impendle as indicated in the concept land use map • Define urban edge for the wider Impendle Management area as identified in the map for that area. • Definition of the urban edge for the management area should restrict any further development in and around the extensive wetlands located immediately north of the settlement known as Gwanovuka located in the north of the management area. • Provide a range of urban densities in terms of proposed low, middle and upper income residential areas. • Promote internal densification of town properties prior to extending to surrounding lands. • Limit manufacturing to 'clean industries' such as agricultural processing, component parts • Protection of high value land for agriculture in the Impendle management area • Capping further residential development in settlements in the management area. Promoting residential growth with high levels of service in Impendle town
Socio-Economic	• Only node offering commercial services in the Municipality • Node offers a wide range of government and social services • Well located to serve denser settlement in central areas • Serviced land for expansion of commercial and production activities available	• Limited catchment served • Distant from areas such as Lower Lotheni, Stepmore served primarily by Underberg • Competing with Pmb as alternative service delivery centre	• Potential conflict between services offered in Impendle town and other nodes in municipality	• Appropriate planning (clear logic) of levels of services to be provided in each node within the municipality • Confirm municipal service centre status of Impendle Town and develop infrastructure to support this role • Confirm areas for the establishment of new trading, commercial and industrial activities and facilitate new development • Develop Impendle Town as the commercial centre of choice for the people of the Municipality • Establish Impendle Town as the hub for the periodic service delivery system for the municipality • Establish opportunities for middle income housing in Impendle specifically focussed on providing permanent residence for government officials growing the retail/services catchment • Provide opportunities for denser low income housing development in immediate vicinity of Impendle town growing the retail/services catchment • Attract appropriate retail / commercial services to complement the existing

				substantial government services
Environmental	• Negotiable areas (land is degraded, low contribution to conservation targets, not required for achieving provincial conservation targets) • The Impendle Node is situated within a relatively non-sensitive area • Slopes < 12% • High / good potential agricultural land likely within the Management Area • Cultivated lands proximal to local and regional markets • Availability of grazing lands • Limited potential for agricultural projects to cater for local market in the northern part of the Management Area • Opportunities for small scale processing and manufacturing (eg saw mill and joiners) to the north of the town centre with access to the main road	• Non-negotiable areas ○ Wetlands are located within some of the designated agricultural areas • The Management Area is situated within an area of relatively high water production on a Provincial and municipal scale • Overarching requirement of the municipality for provision of good quality water resources • Limited potential for agricultural projects to cater for local market in the northern part of the Management Area • Low levels of environmental awareness • Financial resources to manage areas designated for conservation • Limited servicing	• The Management Area has the potential to impact on the production of good quality water important for provincial development • Over-stocking of grassland areas • Poor sanitation has the potential to impact on water resources	• Rural settlement areas (not within identified nodes) within Management Areas may not be permitted to expand • Non-negotiable areas must be zoned for conservation, and managed for this purpose; this includes the Impendle Mountain within the Management Area; this should comprise a Wilderness Area in terms of zoning • The LUMS must take cognisance of the Non-negotiable areas; designation of the non-negotiable areas into a long term conservation land use • Wetland areas must be buffered • Activities linked to the natural resource base should be developed for agricultural areas and non-negotiable areas • New cultivation may only occur with consent from the Department of Agriculture • Strict catchment management to ensure water quality is not impacted on negatively • Development of steep slopes must conform to legislated requirements in terms of agricultural and urban development • Arable agricultural land in the Management Area to be considered for small holder high value crop production • Retain a green belt from the town through to the mountain in the west. • Limit manufacturing to 'clean industries' such as agricultural processing, component parts
Governance	• Existing	• Peripheral area –	• Dept of Housing	• Investigate appropriate land use management arrangements for the

	administrative centre with established municipal and other government offices	difficult to attract professional people to Impendle – housing range and choice of supporting social & economic services limited	identified housing plans not aligned with Municipal SDF	Impendle Management Area being located on ITB land • Investigate the most appropriate arrangements for land use management in Impendle town as it densifies, expands and takes on a new form and function over time • Formulate an implementation strategy and associated costs for land use management • Proceed with implementation of land use management system in the Impendle Management Area : costs to be determined • Establish Housing Policy for Impendle Municipality and resolve any potential conflicts with Dept of Housing plans for location of housing projects and the SDF

The Nzinga Node and Nzinga Management Area

The **Nzinga** node will have its focal point slightly off of the primary access corridor in order to fit in with the existing development that has grown around various community facilities just north of the junction on the Nzinga valley road. The ultimate "urban edge" may be considerably smaller than the circle shown for illustrative purposes in Figure 32. The settlements shown north-west and east of the node will then be classified as rural settlements with appropriate controls. However, the more detailed investigations required during the LUMS process, may mean that the urban edge is defined as a longer tentacle to incorporate some additional settlement if it is clear that it relates more strongly to an urban node than a rural settlement function.

Nzinga Statement of Intent / Spatial Concept

i. Nzinga is described as a Management Area inclusive of all betterment settlement and land located to the west of the Impendle Mountain surrounding high valley land in Nzinga valley

ii. Management Area with a development node at Nzinga centre with all other settlement being maintained at low density and linked to small holder agricultural production on high value land

iii. Nzinga node identified for economic growth and development

iv. Cebelihle included as part of the growth node

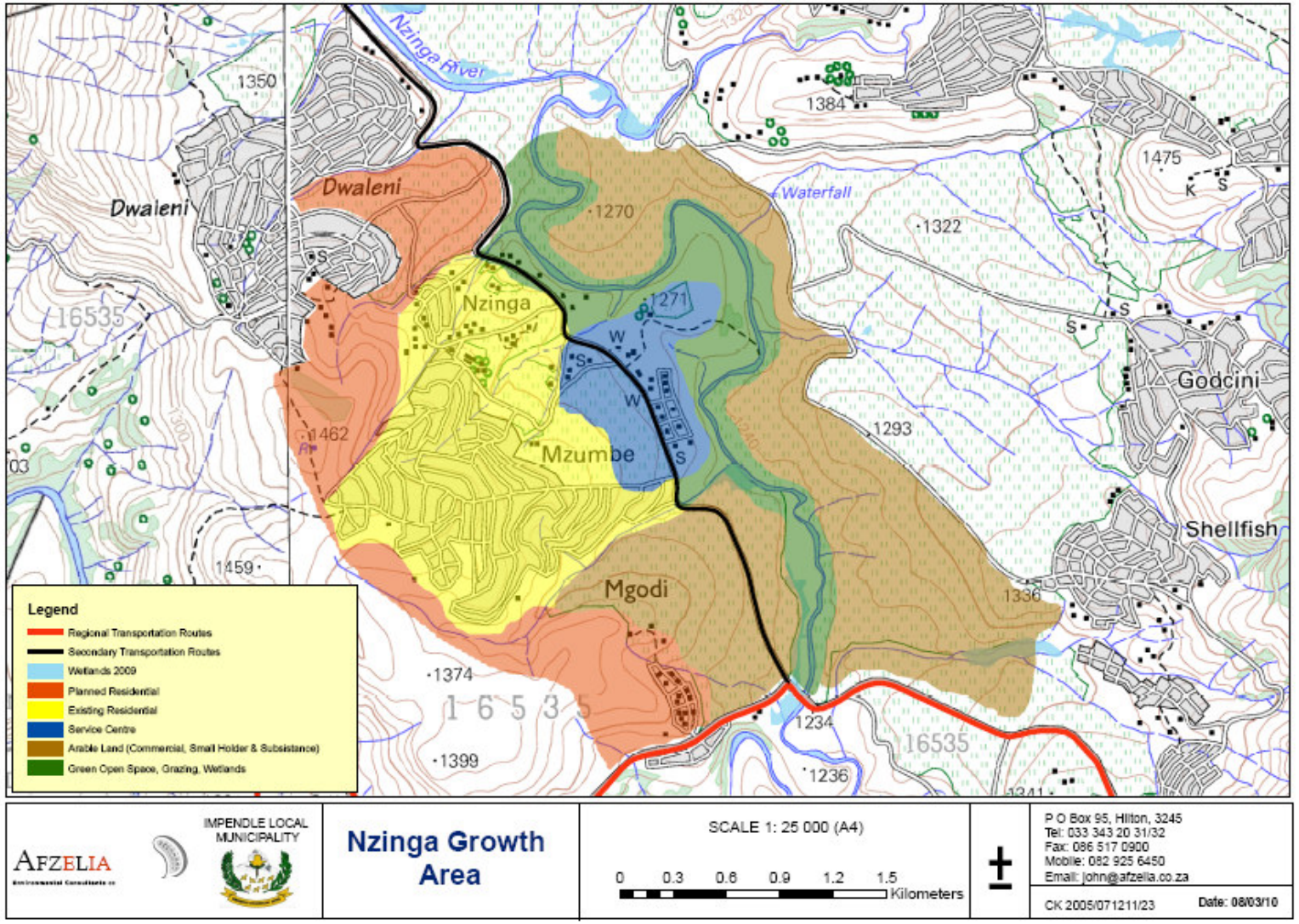
v. Nzinga identified as node due to:

- strategic location on national local public transport interchange
- access-egress route from hinterland

vi. Integration of Nzinga node into wider Management Area due to it forming part of common economic base – agriculture and valley system

vii. Node offset from interchange to protect high value agricultural land which forms basis of the Nzinga Management Area.

Figure 32: Nzinga node conceptual plan



Nzinga Management Area: Strategic Assessment

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• Existing kernel of commercial and service centre at selected nodal point for Nzinga • Residential area contiguous with this node • Close to the proposed regional route (visible from route)	• It is not located directly on the proposed regional route •	• Large number of rural settlements in Nzinga valley which have greater population collectively than does the Nzinga node • There are two nodal points in this management area – a long established, planned and denser settlement at Cebelihle (Compensation) which is a similar distance from the regional route as the selected nodal point for Nzinga	• Nzinga node inclusive of all appropriate land use and controls that befits the establishment of a growing urban centre • Surrounding settlements zoned residential and with agricultural land set aside and zoned for agriculture with wetlands and river system zoned as green open space • All development outside 1: 100 year floodline • Densify existing residential areas in node prior to extending into new areas around the node – contain urban sprawl • Future residential growth in node confined to steeper slopes to protect against loss of high value land • All growth and expansion to take place within defined urban edge of node • Agricultural land to be set aside for small holder high value crop production • Rural settlement in Nzinga Management Area capped with no further growth : all future growth accommodated in node • Agricultural land in valley set aside for high value small holder production
Socio-Economic	• Potentially serving a distinct catchment • Potential tourism opportunities as a result of location in relation to attractions • Opportunities relating to agricultural production	• Limited catchment served by node • Public transport and public transport routes • Levels of production in area currently low • Competing with Impendle, Pmb and Underberg and potentially Stoffelton and Stepmore for attention • Development of provincial route a longer term initiative potentially delaying development of node	• Economic development activities in neighbouring and regional nodes • Expansion of residential areas may potentially impact on spatial development and the environment	• Nzinga to be the location for the provision of periodic commercial and social services to people within the population catchment • Continually review economic development proposals in light of regional nodal development and changing needs of residents • Clear land use management planning and controls for the management area • Commercial and social services delivery to be strengthened over time
Environmental	• Negotiable areas (land is degraded, low contribution to conservation targets, not required for	• Non-negotiable areas ○ Wetlands are located within some of the designated agricultural areas	• Nzinga is situated within a relatively sensitive area • The Management Area has the potential to	• Rural settlement areas (not within identified nodes) within Management Areas may not be permitted to expand • Non-negotiable areas must be zoned for conservation, and managed for this purpose • Wetland areas must be buffered

	achieving provincial conservation targets) • Additional water resources available for abstraction (catchment is not closed to further stream flow reduction activities) for agricultural development • The Management Area is situated within an area of relatively low water production on a municipal scale • Variable slopes (slopes > and < 12%) • Existing cultivated lands (no permit requirements) • High / good potential agricultural land likely within the management area • Cultivated lands proximal to local and regional markets • Existing timber plantations • Availability of grazing lands • Potential for agricultural projects • Contribution to National and Provincial conservation targets • Mix of on and off-	○ The National and Provincial Ecological Corridor is aligned along the western boundary of the management area ○ Areas required for achieving vegetation type targets are located within parts of the agricultural zones of the management area • The Management Area is situated within an area of relatively high water production on a Provincial scale • Variable slopes (slopes > and < 12%) • Overarching requirement of the municipality for provision of good quality water resources • Areas of low potential agricultural land • Low levels of environmental awareness • Overarching requirement to protect UDPWHS • Financial resources to manage areas designated for conservation • 1:100 year flood line / 100m from edge of water resource • Mix of on and off-grid services and associated capital investment in bulk and reticulation water, electricity and waste disposal	impact on the production of good quality water important for provincial development • Areas required for achieving vegetation type targets are at risk from uncontrolled urban expansion • Areas required for achieving provincial and national ecological connectivity are at risk from uncontrolled urban expansion • Over-stocking of grassland areas • Poor agricultural practises have the potential to negatively impact on vegetation type targets • Poor sanitation has the potential to impact on water resources • Potential visual and biodiversity impacts on UDPWHS	• The LUMS must take cognisance of the Non-negotiable areas; designation of the non-negotiable areas into a long term conservation land use • Urban and agricultural land development must be restricted to the west of the Nzinga River and the east of the identified ecological corridor • Activities linked to the natural resource base should be developed for agricultural areas and non-negotiable areas • Agricultural lands to the east of the Nzinga River may only be utilised for livestock grazing; steep slopes necessitate conservation friendly stocking rates • Agricultural lands within the node and Management Area which are also required for meeting conservation targets must be stocked at conservation friendly stocking rates • New cultivation may only occur with consent from the Department of Agriculture • Strict catchment management to ensure water quality is not impacted on negatively • No development within the 1:100 year flood line / 100m from edge of water resource (the latter in the case of urban development) • Development of steep slopes must conform to legislated requirements in terms of agricultural and urban development • Land set aside and zoned for agriculture must be developed for this purpose • Land set aside and zoned for arable agriculture must be developed for this purpose; cognisance must be taken of buffers to the Nzinga River • Infrastructural development must consider visual impact on the UDPWHS

	grid services and associated capital investment in bulk and reticulation water, electricity and waste disposal • 1:100 year flood line / 100m from edge of water resource can be accommodated			
Governance	• Nzinga node has the start of a centre	• The scattered nature of the rural settlements, and the number of rural settlements in this management area render it difficult and costly to service and manage	• High value agricultural land along valley – no clear management system	• Investigate management system for all land use in Nzinga Management Area including small holder production on ITB land • Identify implementation strategy for land use management system including establishment costs and training of staff to operate structure • Proceed with implementation –costs to emanate from implementation strategy above : costs to be determined

The Stoffelton Node and Stoffelton-Ntwasahlobo Management Area

Stoffelton / Ntwasahlobo is located such that it can take advantage of the proposed primary inter-regional access corridor as well as the local access road up towards Stepmore and to Lower Lotheni. It does not have as developed a focus point as Nzinga; therefore the node can be encouraged to grow at the junction of the two roads. Unlike Nzinga which has development around the focus point, it is likely that Stoffelton will develop extensions along the three main access routes owing to the already existing settlements located along those routes. The urban edge of Stoffelton will therefore more likely take a different form once the LUMS process has confirmed where growth is more likely to occur. Care must be taken not to over-extend these nodes along transport routes otherwise inefficiencies and associated costs will persist.

This Management Area comprises the following:

- Stoffelton Node
- Ntwasahlobo node

Stoffelto node Statement of Intent / Spatial concept

i. Stoffelton-Ntwasalhobo identified as a secondary node within a defined Management Area. Identified as a Management Area due to impact of national road, services relationship with Stepmore-Mqatsheni, linkages between Stoffelton-Ntwasahlobo and the 3 way interchange at the leading into the area from Impendle

ii. Interchange between national and local transportation networks

iii. Mix of services, residential, agricultural, processing, tourism and open space land uses

iv. Planned development around existing centres of Stoffelton and Ntwasahlobo

v. Focus on the protection of high value land

vi. Focus of the future at Stoffelton is on residential development and services provision

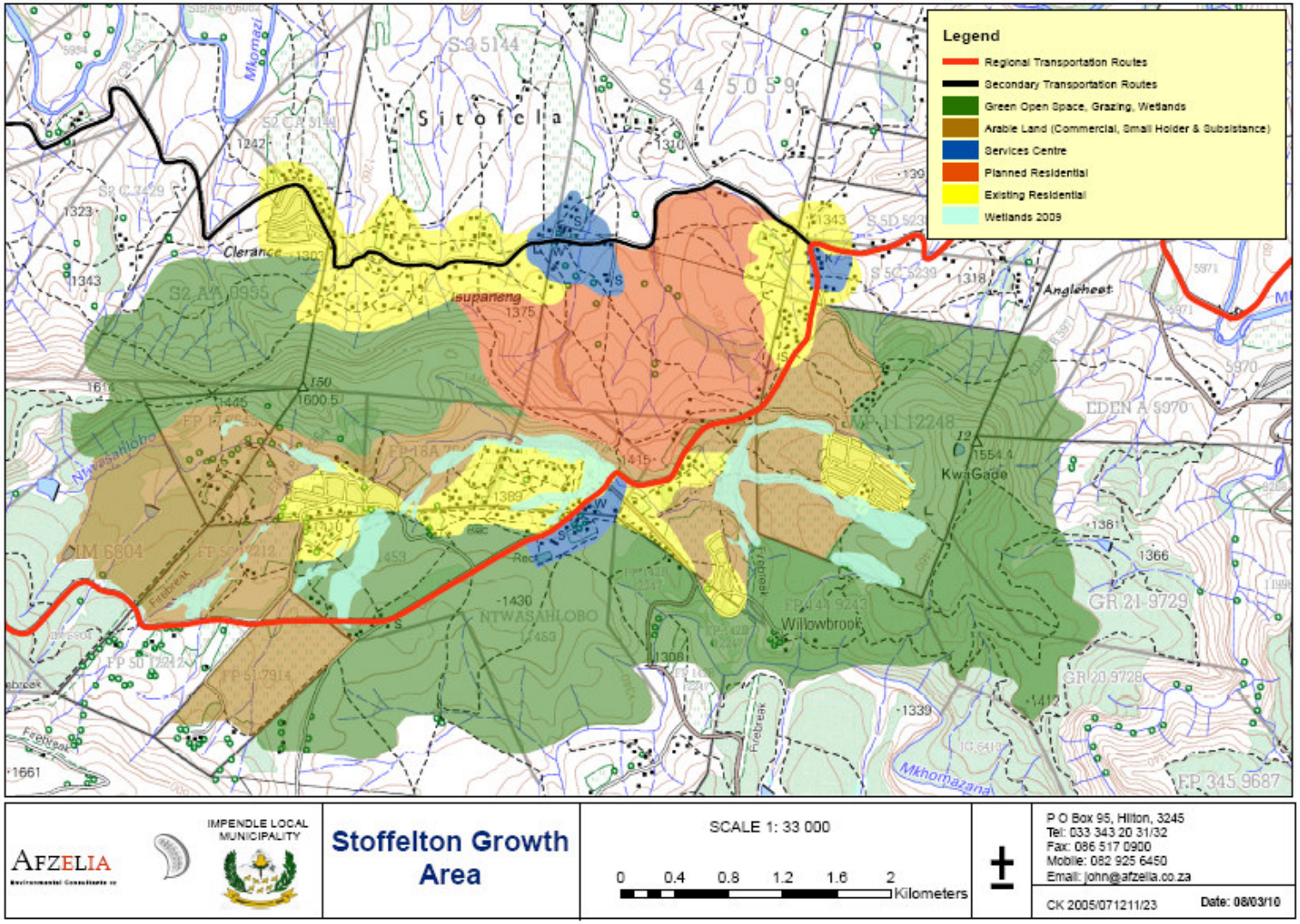
vii. Future development at Ntwasahlbo is mainly agricultural (livestock and small holder arable), processing, services and residential

viii. Future development at 3 way interchange, tourism opportunities

ix. Maintain low density rural settlement as rural in Management Area

x. Define the urban edge in the first instance around the Management Area, then secondly around the Stoffelton-Ntwasahlobo node

Figure 33: Stoffelton node conceptual plan



Stoffelton – Ntwasahlobo Management Area Strategic Assessment

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• Both nodes in management area are on the proposed regional route • High value agricultural land in river valley area (Ntwasahlobo river) • Good opportunity for integration of settlement with associated agricultural economic activity – smallholder farming • Access to water for irrigation (depending on permits for extraction)	• Topography – hill area between the two nodes •	• 2 nodes – could have problems with split in services which makes it more difficult for residents • Livestock and grazing has taken over what should be arable lands near the river	• Zone nodes at Stoffelton and Ntwasahlobo for residential, services and agricultural development • Provide for densification of existing residential areas prior to any extension taking place • Where expansion is required ensure that residential development is extended onto steeper slopes in more marginal area • Prior to any form of development taking place conduct geo-tech investigations on soils • Protect all ridge lines from development owing to bio-diversity importance of grasslands. • On-grid energy, water and sanitation services • Protect wetlands and valleys from development and zone as green open space • Identify and protect all high value agricultural land from use other than agriculture • Provide for managed livestock production in Management Area on ridges, wetlands and green belts
Socio-Economic	• Potentially serving a distinct catchment including the Stepmore / Mqatsheni area • -Potential tourism opportunities as a result of location on future provincial tourism corridor • -High potential for agricultural production	• Limited catchment currently served by node • -Public transport and public transport routes • -Levels of production in area currently low • -Competing with Impendle, Pmb and Underberg and potentially Nzinga and Stepmore for attention • -Development of provincial route a longer term initiative potentially delaying development of node	• -Economic development activities in neighbouring and regional nodes • -Potential conflict between residential expansion / densification and agricultural production on high value agricultural land • -Expansion of residential areas may potentially impact on spatial development and the environment	• Continually review economic development proposals in light of regional nodal development and changing needs of residents • -Clear land use management planning and controls for the management area • Stoffelton-Ntwashahlobo to be the location for the provision of periodic commercial and social services to people within the population catchment • Provide the opportunity for the development of local processing facilities / markets linked to agricultural production in the area (both livestock and crop farming) • Development of tourism related facilities in location relating to future main road
Environmental	• Negotiable areas (land is degraded,	• Non-negotiable areas	• Vegetation type targets will not be met if some	• Rural settlement areas (not within identified nodes) within Management Areas may not be permitted to expand

	low contribution to conservation targets, not required for achieving provincial conservation targets) • Additional water resources available for abstraction (catchment is not closed to further stream flow reduction activities) for agricultural development • The majority of the Management Area is situated within an area of relatively low water production on a municipal scale • The northern parts of the Management Area is situated within an area of relatively high water production on a provincial scale • Variable slopes (slopes > and < 12%); primarily flat in the south with extensive arable areas • Existing timber plantations and cultivated lands • High potential agricultural land; potential for agricultural projects • Availability of grazing	○ Wetlands are located within some of the designated agricultural and existing residential areas ○ Areas required for achieving vegetation type targets are located within parts of the agricultural and future residential zones of the management area • The Management Area is situated within an area of relatively high water production on a Provincial scale • The Management Area is located within a River Corridor System • Variable slopes (slopes > and < 12%); primarily steep in the north with limited arable areas • Overarching requirement of the municipality for provision of good quality water resources • The northern parts of the Management Area is situated within an area of relatively high water production on a provincial scale • No significant water impoundments or rivers for irrigation projects • Cultivated lands proximal to local and regional markets • Low levels of environmental awareness • Financial resources to	of the areas designated for future residential use and agricultural production are developed as intended; however, visual inspection of these areas revealed generally degraded lands • Wetlands are at risk of impacts from agricultural development and existing residential development • Inappropriate development has the potential to impact on achieving aquatic conservation targets • The Management Area has the potential to impact on the production of good quality water important for provincial development • Areas required for achieving vegetation type targets are at risk from uncontrolled urban expansion • Poor agricultural practises have the potential to negatively impact on vegetation type targets • Over-stocking of grassland areas	• Additional areas for the loss in vegetation types must be identified in the municipality to offset the loss within the node • Wetland areas must be buffered • Non-negotiable areas must be zoned for conservation, and managed for this purpose • Protect all ridge lines and scarps from development • The LUMS must take cognisance of the Non-negotiable areas; designation of the non-negotiable areas into a long term conservation land use • Activities linked to the natural resource base should be developed for agricultural areas and non-negotiable areas • New cultivation may only occur with consent from the Department of Agriculture • Strict catchment management to ensure water quality is not impacted on negatively • No development within the 1:100 year flood line / 100m from edge of water resource (the latter in the case of urban development) • Development of steep slopes must conform to legislated requirements in terms of agricultural and urban development • Land set aside and zoned for agriculture must be developed for this purpose • Agricultural lands within the node and Management Area which are also required for meeting conservation targets must be stocked at conservation friendly stocking rates • Arable agricultural land to be considered for small holder high value crop production • Limit development on land in excess of 12% slope due to proximity of river and potential for erosion, ground water pollution and unsustainable development of housing on steeper slopes

	lands • Stoffelton is not situated within a sensitive area • No municipal servicing • 1:100 year flood line / 100m from edge of water resource can be accommodated	manage areas designated for conservation • 1:100 year flood line / 100m from edge of water resource • Opportunities for processing activities	• Poor sanitation has the potential to impact on water resources	
Governance	•	• Private land ownership – municipality has no tenure therefore more difficult to obtain rights for servicing, etc • Limits on expansion of service area – private property	• Private ownership versus need for municipal land in this commercial / service node	• Investigation into appropriate land use management system for the Management Area undertaken in conjunction with land owners, tenants and Traditional Council (only at Stoffelton) • Formulate and implementation strategy and associated costs for land use management system • Implement governance structure : to be determined

Comment on local conditions in Stoffelton/Ntwasahlobo

Agriculture Condition of the land:

- Some areas with very bad erosion in the Ntwasahlobo and Stoffelton areas. Some serious dongas and sheet erosion (Photo 1). The erosion almost certainly originated in the area accompanying the introduction of commercial agriculture in the late 1800s with early Colonial settlers. Ploughing with livestock is noted as one the key causes of erosion in the last century due to overstocking at that time and the long term damage that overstocking does to grasslands on poor quality soils (eg Escourts).
- The majority of the land was owned by the Molefe family purchased from white settlers in the early 1900s.

Agricultural (arable) Potential:

- Large tracts of land which were historically used for commercial production (contour banks) are being used for livestock grazing at the present time (Photo 2).
- These were lands used by the first commercial farmers in the area in the early to mid 1900s prior to takeover by the state for homeland government establishment.
- Dept of Agriculture has initiated a cropping system near Nzinga on some of these old lands and the maize being produced this year looks healthy and likely to produce a good crop (5-6 tonnes per ha) (Photo 3).
- The areas with potential are located on the old 1:50000 maps as arable.

- All lands have access to water for irrigation purposes.
- It was confirmed that during summer these lands could be used to produce high quality maize, potatoes, green beans, pumpkins, sweet potatoes and a variety of vegetable crops. Cropping in winter is limited by temperature and moisture but nonetheless cabbages are grown to a limited extent where there is easy access to water.
- Reasons for the non-productive use of these high potential lands were as follows:
    - No fencing;
    - No equipment;
    - Lack of expertise in large scale farming;
    - Limitations on capital for production;
    - Access to land since it is all privately owned and a high proportion of residents are tenants.

Livestock Production:

- The major focus in Brotheni was on livestock production among the male representatives at the committee meeting.
- Production was primarily for traditional purposes, but there was a strong interest in livestock sales and the conditions associated with sale.
- There was no regulated grazing regime or associated stock improvement programme.
- It was noted that there is limited knowledge among cattle owners about the value per kilogram criteria at sales yards.

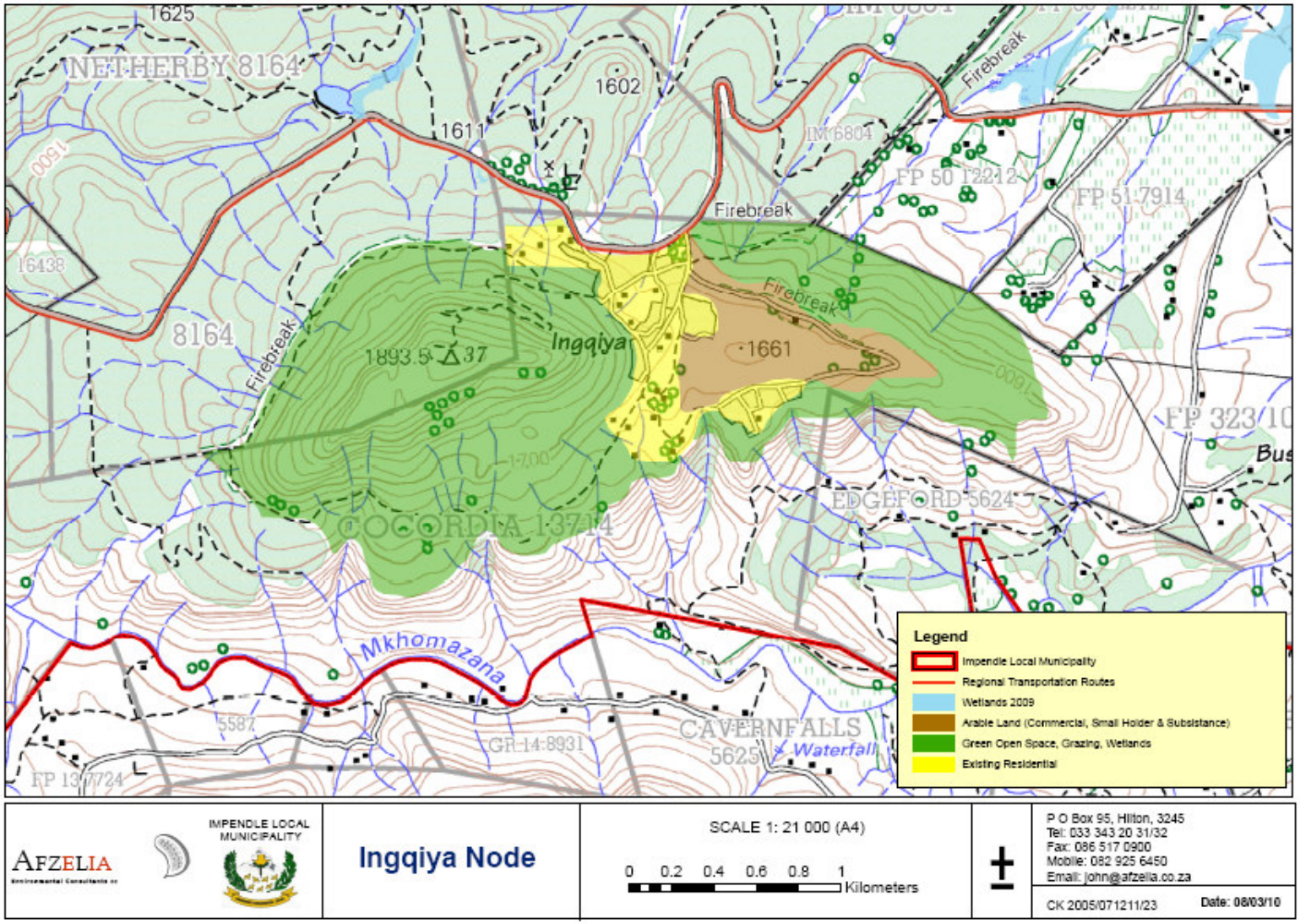
Home gardens:

- Women were primarily involved in home gardening for domestic food supply. It was noted that in summer most households produce sufficient food for home consumption. They all have access to land for cultivation purposes and produce a wide range of vegetables and maize. There is limited trading in agricultural produce mainly to dispose of surpluses.

Ngqiya Node Statement of Intent / Spatial Concept

i. Maintain rural character of the settlement
ii. Limit level of services provision. Higher order services needs can be met at Ntwasahlobo
iii. Focus on livestock and small scale high value agricultural production to take advantage of climate and location
iv. Motivate alternative technology options for domestic energy, housing and essential services
v. Possible inclusion of upmarket outdoor focus tourism in the area

Figure 34: Ngqiya rural settlement



Ngqiya Strategic Assessment

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	•	•	•	• Cap further housing development • Limit development of further social facilities in the area. Full range of services provided at Ntwasahlobo • Settlement zone as mixed use with define controls on land use in support of maintaining character of the area • Ensure protection of mistbelt grasslands and high value agricultural land against exploitation for forestry
Environmental	• All negotiable areas (land is degraded, low contribution to conservation targets, not required for achieving provincial conservation targets) • Slopes < 12% in localised agricultural area • Moderate potential agricultural lands adjacent	• No Non-negotiable areas • Slopes > 12% in most of the Node • The Node is situated within an area of relatively high water production on a Provincial scale • Low levels of environmental awareness • Cultivated lands proximal to local and regional markets • Limited servicing	• The Node has the potential to impact on the production of good quality water important for provincial development • Over-stocking of grassland areas • Poor sanitation has the potential to impact on water resources	• New cultivation may only occur with consent from the Department of Agriculture • Strict catchment management to ensure water quality is not impacted on negatively; protect against water pollution with all future development • Agricultural lands within the node must be stocked at conservation friendly stocking rates • Livestock to be restricted from ridges and scarp areas
Governance	•	•	•	• Work with landowners and residents association in identifying an appropriate local structure to manage land allocation and land use • Formulate an implementation strategy for land use at Ngqiya including training of development committee • Implementation of land use system part of Municipal rural land use management framework : costs to be established

Stepmore – Mqatsheni Node and Management Area (Cross –boundary: KwaSani-Impendle Municipalities)

Spatial concept for Management Area

Stepmore / Mqatsheni is a more developed than the other two commercial/service nodes; it is located on the road to Himeville which forms part of the proposed tourism/scenic route along the foothills of the Drakensberg. It has the core of an administrative centre, where a multi-purpose community centre, clinic and sports facility is due to be developed. There is also the beginning of a commercial focus around a few local trading stores. The residential area is already much in evidence along the road, hence the future urban edge of Stepmore will in all likelihood be defined around the business and administrative hubs and encompass the residential areas stretching out along the road. Stepmore is just off the junction with the local access road to Stoffelton. It is important to include a realistic area when defining the boundary of the proposed node, as there is insufficient space for considerable densification.

This management area is made up of three parts:

- Stepmore node
- Stepmore – Mqatsheni link
- Mqatsheni node

Each has its own spatial concept and strategic assessment table.

Spatial concept: Stepmore Node

i. Stepmore identified as a lower order node (tertiary) due to its location in the buffer zone.

ii. Settlement to follow main road from river to crest of ridge, densifying along road

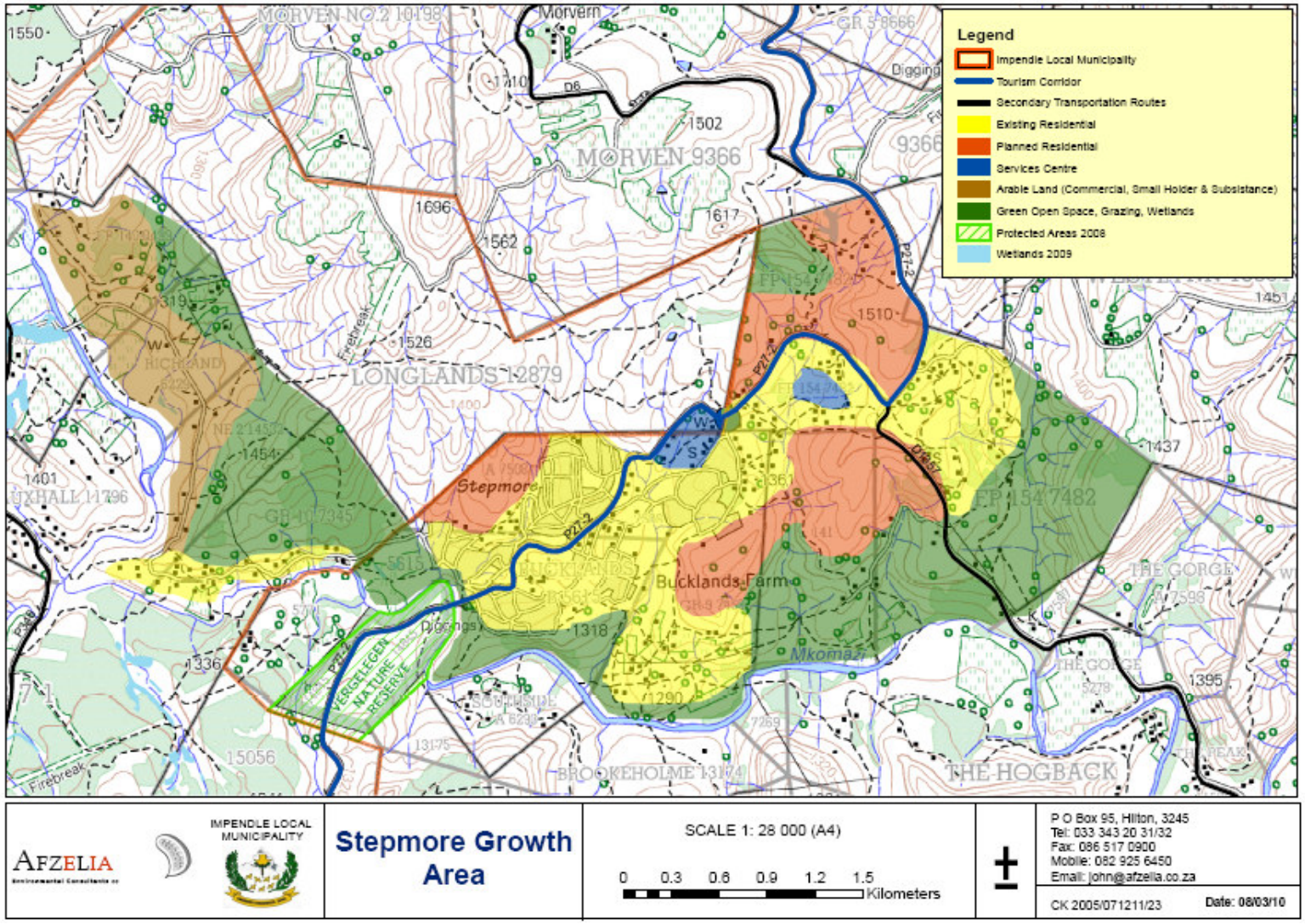
iii. Aim of Stepmore to become a centre providing low order services to people of Mqatsheni, Mahlutsheni and Lower Lotheni. Higher order services to be found at Impendle, Nzinga and Stoffelton nodes

iv. Aim to formalise settlement and services and provide limited upgrading to existing settlement – particularly where densification is envisaged

v. Densify through infill in existing settlement along accessible main transport route

vi. Stepmore to form part of the cultural heritage route traversing settlements and the foot of the berg

Figure 35: Stepmore node conceptual plan



Stepmore Node Strategic Assessment

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• *Situated on tourism route parallel to Drakensberg foothills and close to UDPWHS boundary* • *Water availability – Mkhomazi river (depends on permits for extraction)* • *Potential to develop eco-tourism opportunities – link to Lower Lotheni tourism node*	• *Topography – located in steep area down into Mkhomazi valley* • *Land shortage in area* • *Servicing more expensive due to topography*	• *Stepmore node is well within buffer zone of UDPWHS; therefore it is conflict with Drakensberg policies as are a number of other nodes the length of the 'berg* • *Potential pressure to grow in conflict with intention of the node in this SDF and with the intent of the buffer zone*	• Identify land use zones suitable for rural settlement in a 'buffer' zone performing a services centre function • Develop inside of 1:100 year floodline • Limitations on any further residential development outside urban edge due to land shortage in the area • Provide for the densification of existing residential areas prior to expansion onto remaining pockets of un-developed land • All further development should only take place within the defined urban edge • Geo-tech investigation required prior to densification and expansion into vacant areas • Limit development on land in excess of 12% slope due to proximity of river and potential for erosion, ground water pollution and unsustainable development of housing on steeper slopes
Socio-Economic	• Potentially serving a distinct catchment (Stepmore / Mqatsheni) • Potential tourism opportunities as a result of location on future provincial tourism corridor • High potential for agricultural production	• Limited catchment currently served by node • Public transport and public transport routes • Levels of production in area currently low • Competing with Impendle, and Underberg and potentially Stoffelton and Nzinga for attention • Not located on a provincial priority corridor	• Economic development activities in neighbouring and regional nodes • Potential conflict between residential expansion / densification and agricultural production on high value agricultural land • Expansion of residential areas may potentially impact on spatial development and the environment	• Stepmore to be the location for the provision of periodic commercial and social services to people within the population catchment • Continually review economic development proposals in light of regional nodal development and changing needs of residents • Clear land use management planning and controls for the management area •
Environmental Please note: The western portion of this Management	• Negotiable areas (land is degraded, low contribution to conservation targets, not required for achieving provincial	• Non-negotiable areas ○ Wetlands are located within some of the designated agricultural and future residential areas	• Vegetation type targets will not be met if some of the areas designated for future residential use are developed as intended; however,	• Rural settlement areas (not within identified nodes) within Management Areas may not be permitted to expand • Additional areas for the loss in vegetation types must be identified in the municipality to offset the loss within the node • Wetland areas must be buffered • Non-negotiable areas must be zoned for conservation, and

Area does not form part of the Impendle Municipality. Conservation planning has therefore not taken place in this domain. Nevertheless, general environmental principles have been applied.	conservation targets) • Additional water resources available for abstraction (catchment is not closed to further stream flow reduction activities) for agricultural development • The Management Area is situated within an area of relatively low water production on a municipal scale • Variable slopes (slopes > and < 12%); primarily steep, some arable areas • Existing timber plantations • Potential for agricultural projects • Contribution to National and Provincial conservation targets • Mix of on and off-grid services and associated capital investment in bulk and reticulation water, electricity and waste disposal • 1:100 year flood line / 100m from edge of water resource can be accommodated	○ Areas required for achieving vegetation type targets are located within parts of the agricultural and future residential zones of the management area ○ Located within irreplaceable areas in terms of achieving aquatic conservation targets ○ Located adjacent to a Protected Area • The Management Area is situated within an area of relatively high water production on a Provincial scale • The Management Area is located within a River Corridor System • 1:100 year flood line / 100m from edge of water resource • Located adjacent to natural heritage or Site of Conservation Importance site • Variable slopes (slopes > and < 12%); primarily steep • Overarching requirement of the municipality for provision of good quality water resources • Areas of low potential agricultural land • Cultivated lands distal to regional markets; few cultivation opportunities for local markets • Few existing cultivated lands • Low availability of grazing lands	visual inspection of these areas revealed generally degraded lands • Wetlands are at risk of impacts from agricultural and residential development • Inappropriate development has the potential to impact on achieving aquatic conservation targets • Potential impacts on Site of Conservation Significance; these impacts are unlikely considering the location of the site in relation to proposed and existing development • Impacts on Vergelegen Nature Reserve are unlikely to increase; the reserve is already abutted by existing residential areas, is separated from these areas by a river (natural barrier), and no expansion of settlement is proposed towards the reserve; Some of the proposed development areas would be visible from the Protected Area. • Stepmore is situated within a relatively	managed for this purpose • The LUMS must take cognisance of the Non-negotiable areas; designation of the non-negotiable areas into a long term conservation land use • Activities linked to the natural resource base should be developed for agricultural areas and non-negotiable areas • New cultivation may only occur with consent from the Department of Agriculture • Strict catchment management to ensure water quality is not impacted on negatively • No development within the 1:100 year flood line / 100m from edge of water resource (the latter in the case of urban development) • Development of steep slopes must conform to legislated requirements in terms of agricultural and urban development • Land set aside and zoned for agriculture must be developed for this purpose; cognisance must be taken of buffers to the Mkomazi River • Agricultural lands within the node and Management Area which are also required for meeting conservation targets must be stocked at conservation friendly stocking rates • Arable agricultural land to be set aside for small holder high value crop production • Infrastructural development must consider visual impact on the UDPWHS • Limit development on land in excess of 12% slope due to proximity of river and potential for erosion, ground water pollution and unsustainable development of housing on steeper slopes

		• Low levels of environmental awareness • Overarching requirement to protect UDPWHS • Financial resources to manage areas designated for conservation • Mix of on and off-grid services and associated capital investment in bulk and reticulation water, electricity and waste disposal	sensitive area • The Management Area has the potential to impact on the production of good quality water important for provincial development • Areas required for achieving vegetation type targets are at risk from uncontrolled urban expansion • Over-stocking of grassland areas • Areas required for achieving provincial ecological connectivity are at risk from uncontrolled urban expansion • Poor agricultural practises have the potential to negatively impact on vegetation type targets • Poor sanitation has the potential to impact on water resources • Potential visual and biodiversity impacts on UDPWHS	
Governance	•	•	•	• Investigate land use administration for Stepmore accounting for private land ownership and Traditional Council on Ingonyama trust land • Identify implementation strategy for land use management system and possible structure including establishment costs and training of staff to operate structure • Proceed with implementation –costs to emanate from

				implementation strategy above : costs to be determined

Stepmore – Mqatsheni Link Area

Statement of Intent / Spatial Concept

i. 'Link' identified as a residential expansion area for Stepmore & Mqatsheni
ii. Access via secondary public transport routes
iii. Mix of low level services, residential, agricultural and open space land uses
iv. Mix of low level services, residential, agricultural and open space land uses
v. Planned development around existing settlement
vi. New development on low value steeper land
vii. Services centre with limited range of social and commercial services
viii. Mix off-grid on-grid for technology options

Refer to detail on link area on the Mqatsheni map overlay.

Stepmore – Mqatsheni Link Area – Strategic Assessment / Decision –Support Framework

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	•	•	•	• Develop outside 1: 100 year floodlines • Zoned residential, agriculture and mixed use for small services area • Densification of existing residential areas prior to extension into planned areas • All development in the node to take place within defined urban edge • Residential growth that cannot be accommodated in Stepmore to be located in 'Link' area on planned serviced sites

Socio-Economic	•	•	•	• Future development of limited range of social and commercial services for utilisation by both Stepmore and Mqatsheni communities
Environmental .	Please note: This area does not form part of the Impendle Municipality. Conservation planning has therefore not taken place in this domain. Nevertheless, general environmental principles must be applied, as provided for in the Management Areas falling within the Impendle Municipality. It is recommended that a detailed conservation assessment is conducted within KwaSani Municipality to verify environmental sensitivity of this Management Area. The assessment would have to take into account identified sensitive areas within the Impendle Municipality, and ensure adequate ecological linkages			
Governance	• Cooperative governance and IGR between 2 local municipalities – KwaSani and Impendle and 2 district municipalities – Sisonke and Umgungundlovu	• Area not part of Impendle Municipality and yet functionally linked. • Therefore 2 different authorities making decisions about one functional area	•	Investigate land ownership for Municipal acquisition, consolidation and land use management Investigate appropriate cross border land use management system (KwaSani in co-operation with Impendle) for link area as an integral part of Mqatsheni and Stepmore Identify implementation strategy including establishment costs and training of staff to operate structure Proceed with implementation –costs to emanate from implementation strategy above : costs to be determined

Mqatsheni Node Spatial Concepts

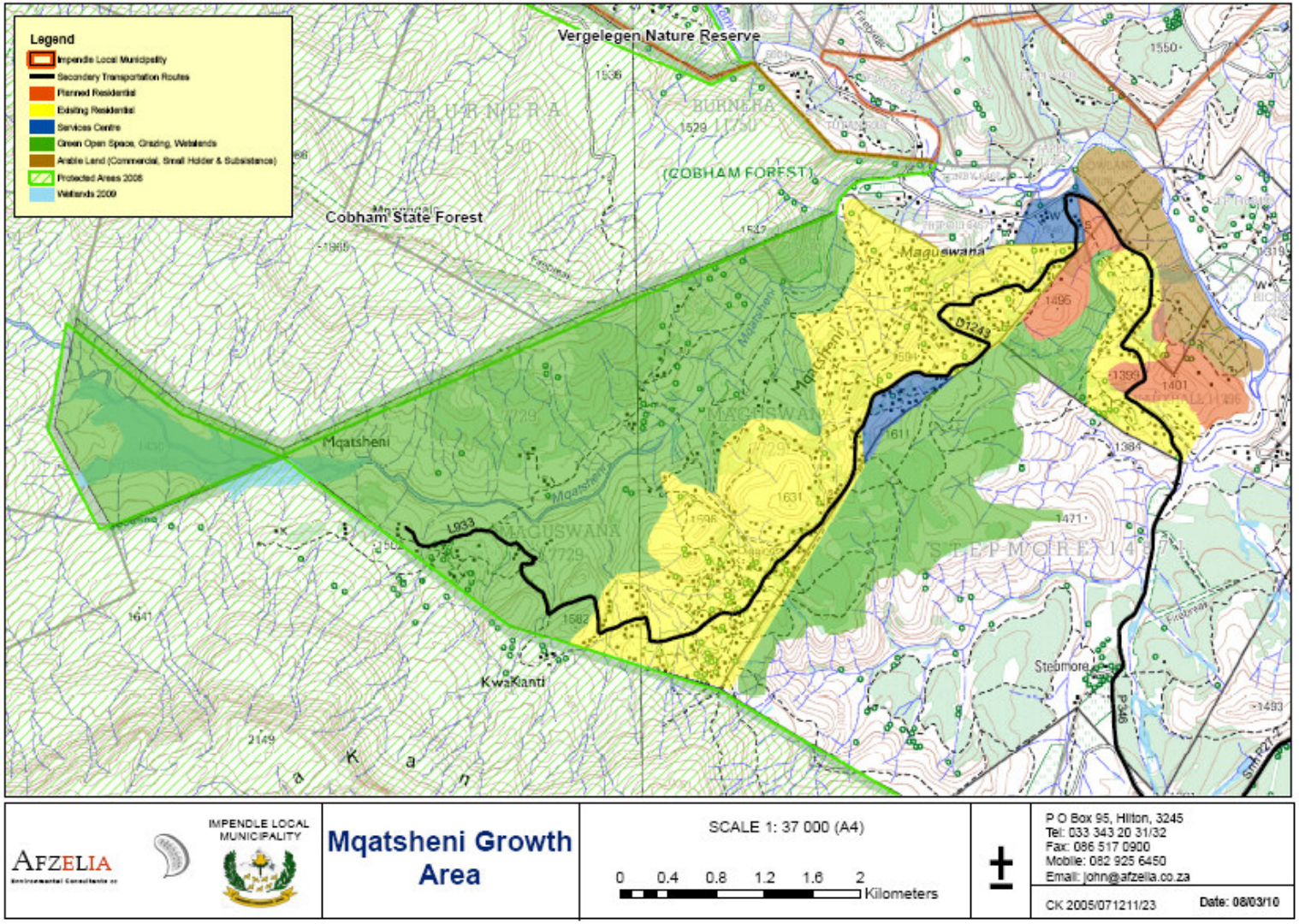
i. Mqatsheni identified as low key development located in WHS 'buffer' on the edge of the EKZN Wildlife protected area

ii. Accessed only by tertiary public road via 'Link' area to Stepmore

iii. Land use based on limited services area, residential, limited agricultural and open space

iv. Re-instate primeval status of land on west side of settlement

Figure 36: Mqatsheni node overlay



Mqatsheni Node Strategic Assessment / decision support framework

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• On road to Lotheni – eco-tourism opportunities for local community • Long history of settlement in the area – can promote cultural heritage aspects	•	• Well within the buffer zone of the UDPWHS which conflicts with policy having a settlement node there	• Zone residential with small mixed use area for services provision • No further planned residential development in Mqatsheni. Those needing land in Mqatsheni locating to the 'Link' development area • Providing low order services to people of Mqatsheni-higher order services at Stepmore or Stoffelton/Nzinga • Upgrade services centre in Mqatsheni to meet minimum requirements • Urban edge defined by topography around settlement. • No development permitted in valleys, on steep slopes and across the main valley on the west side of the property • Only limited cultivation permitted around houses. Access to land for small holder cropping to be negotiated with neighbouring forestry companies • Seasonal livestock grazing to be negotiated with neighbouring forestry companies and EKZN Wildlife. Overstocking to be carefully monitored • Alternative energy (wind, solar, bio-gas), gravity fed water reticulation, VIP sanitation facilities and appropriate technology housing
Socio-Economic	•	•	•	• Mqatsheni to provide a location where services can be provided periodically for the residents of the settlement • In relation to the location of the settlement to Vergelegen Nature Reserve and the Ukhahlamba Park in general the development of economic activities to have a strong focus on linkages with the tourism sector.
Environmental .	Please note: This area does not form part of the Impendle Municipality. Conservation planning has therefore not taken place in this domain. Nevertheless, general environmental principles must be applied, as provided for in the Management Areas falling within the Impendle Municipality. It is recommended that a detailed conservation assessment is conducted within KwaSani Municipality to verify environmental sensitivity of this Management Area. The assessment would have to take into account identified sensitive areas within the Impendle Municipality, and ensure adequate ecological linkages			
Governance	• Cooperative governance – IGR between 2 local municipalities (KwaSani and Impendle) and 2 district municipalities (Sisonke and	• Mqatsheni is in KwaSani – can make it difficult to manage this area as one functional node together with Stepmore	• Alignment	• Establishing rules for land use administration with TC and community • Training of Traditional Council in land use and governance issues : R 10 000 per person and 10 Councillors and Secretary • Environmental education for Council and community R 10 000 per person with 10 people being trained • Formulate an implementation strategy for land use administration in Mqatsheni

	Mgungundlovu)			• Implement land use system : costs to be determined

Boston Agricultural Service Centre Node

The fourth secondary node identified in this SDF / SDMP, is the **Boston** agricultural service centre node in the south-eastern part of Impendle. Similar to the proposed specialist tourism node of Lower Lotheni, the emphasis in these areas is on the provision of specialist services rather than future residential development. The reason for this is that this node is located in high potential agricultural land which should not be sacrificed for residential development in terms of the principles contained in this spatial framework which aligns with the national and provincial guidelines.

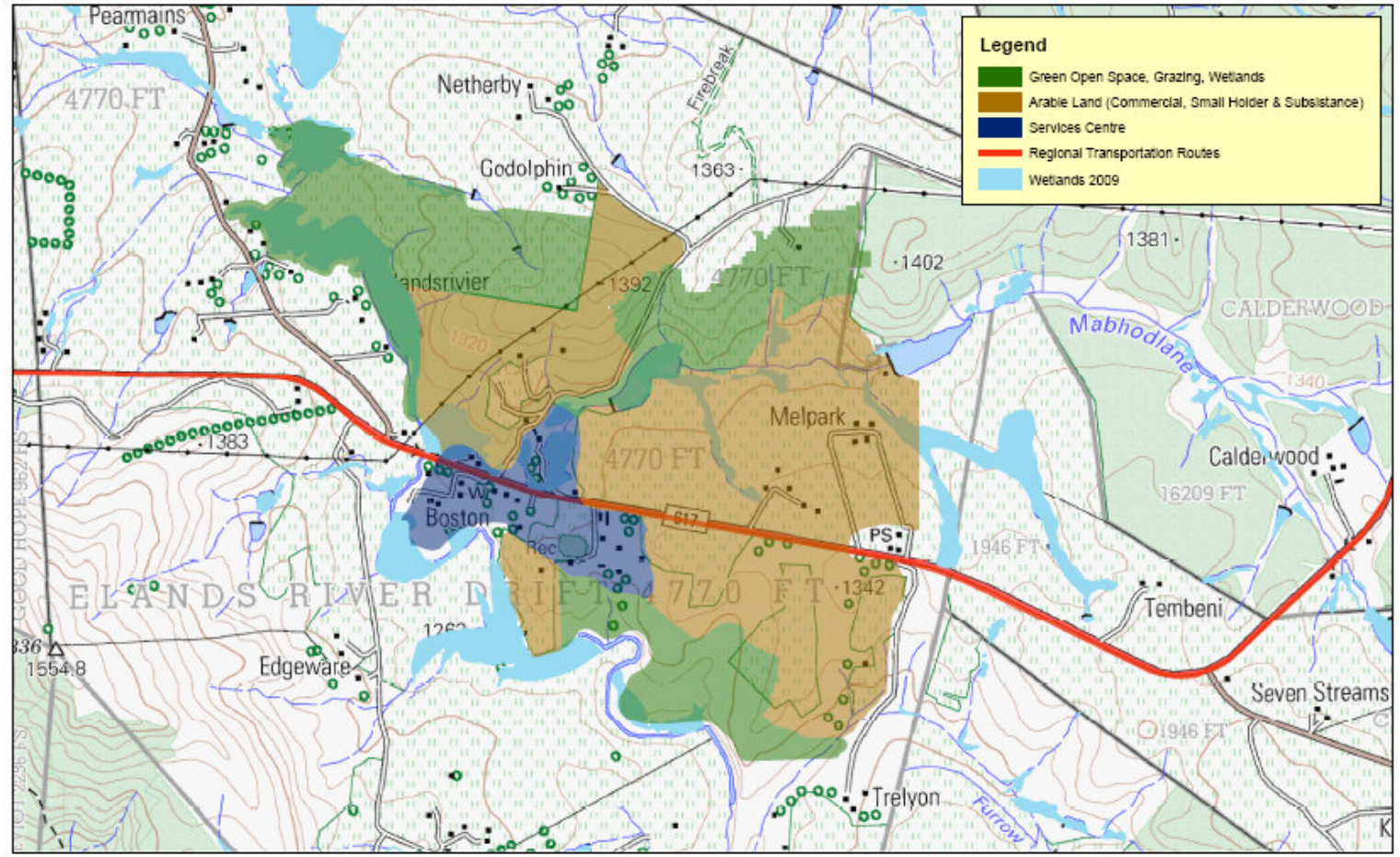
Statement of Intent / Spatial concept

i. Boston is an established agricultural services centre with limited residential development

ii. Promote roadside tourism facilities to north of main road and hospitality options along the river to the south of the road

iii. Maintain character as a low profile agricultural services centre. Introduce facilities promoting Boston as a tourism gateway information centre for Impendle on the Underberg route

Figure 37: Boston node conceptual plan



Boston Node : Strategic Assessment / Decision-Support Framework

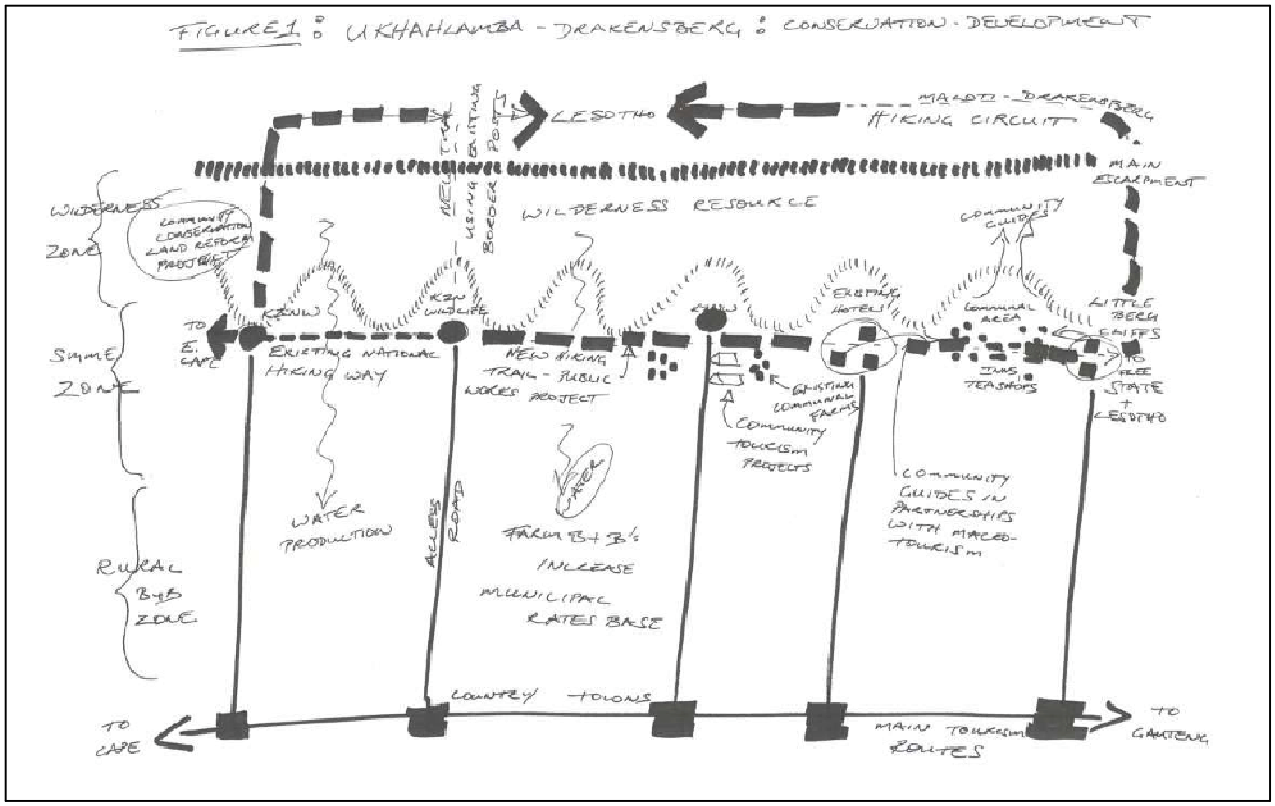
Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• Situated on main provincial road – Howick – Bulwer – Underberg which is principal access route from Pmb to the southern berg	• Close to Pmb and Howick which are much larger commercial centres therefore not a lot of growth potential • Small centre split by major provincial road	• Split by major provincial road	• Limited residential development • Limited commercial and retail development • Promote limited tourism facility development around dam site to north of the road • Zone mixed use with defined controls around density and uses which compliment the agricultural character of the centre • Define urban edge as indicated in plan and protect against loss of agricultural land with future development and densification • Protect against water pollution with all future development
Socio-Economic	• Location on provincial route linking Pmb with Bulwer, Underberg and Himeville (onwards to Kokstad) • Location in relation to commercial farming activities in Impendle	• Function as an agricultural service centre in decline	• No conflicts identified	• Establish Boston as a tourist stopover point in the Impendle context and use opportunity to promote tourism opportunities in Impendle •
Environmental	• Negotiable areas (land is degraded, low contribution to conservation targets, not required for achieving provincial conservation targets) • Slopes < 12% • High / good potential agricultural land likely within close proximity of the node • Cultivated lands proximal to local and regional markets • Opportunities for agricultural processing and manufacturing	• Non-negotiable areas ○ The Boston Node is situated within a relatively sensitive area in terms of wetlands ○ The Boston Node is situated within a relatively sensitive area in terms of vegetation types • The Node is situated within an area of relatively high water production on a Provincial and municipal scale • The Node is located within a River Corridor System • Overarching requirement of the municipality for provision of good quality water resources	• Wetlands are at risk of impacts from agricultural and service centre development • The Node has the potential to impact on the production of good quality water important for provincial development • Over-stocking of grassland areas • Poor sanitation has the potential to impact on water resources	• Non-negotiable areas must be zoned for conservation, and managed for this purpose • Wetland areas must be buffered • The LUMS must take cognisance of the Non-negotiable areas; designation of the non-negotiable areas into a long term conservation land use • Activities linked to the natural resource base should be developed for agricultural areas and non-negotiable areas • New cultivation may only occur with consent from the Department of Agriculture; no new cultivation of Midlands Mistbelt grassland areas • Agricultural lands within the node which are also required for meeting conservation targets must be stocked at conservation friendly stocking rates • Strict catchment management to ensure water quality is not impacted on negatively; protect against water pollution with all future development • Limit service centre development adjacent to the Elands River to non-polluting activities

	• Financial resources to manage areas designated for conservation	• Moderate levels of environmental awareness • Limited servicing		
Governance	•	•	•	• Set up defined land use controls in LUMS for Boston with community • Identify an appropriate land use management system for development control at Boston • Prepare implementation strategy for land use at Boston • Implement land use management system at Boston : costs to be determined

Lower Lotheni Tourism node:

The specific tourism node identified is **Lower Lotheni**, located on the Himeville – Nottingham Road tourism/ scenic route. As mentioned above, all the nodes should be considered as having a level of tourism function and as "gateways" to the tourism assets of Impendle. The Lower Lotheni node, is located well within the buffer zone (see Map 2 as well as Figure 13) of the UDPWHS and hence its growth and expansion should be confined to that of a specialist service centre and not allow for residential development. As such, there needs to be a greater level of control over its form and function to ensure that it does not compromise the integrity of the buffer zone, and of the Park. There is an existing trading store and some other developments at this junction of the scenic through route and the local access road to Lotheni Nature Reserve. However, there are also a number of settlements on the road to the junction and some small groups of settlements along the access road to the Park. Because of the proximity to the Park, it is important that these settlements are not included within a nodal point and remain defined as "rural settlements" with limits on their expansion or densification. For this reason, the Lower Lotheni tourism node reflects only a centre which should be directed towards eco-tourism/backpackers type businesses.

Figure 38: The trail concept



Statement of Intent / Spatial Concept

i. Establish Lower Lotheni interchange as low key tourism centre

ii. Investigate establishment of Lower Lotheni interchange as tourism information centre and backpackers 'stop off' point

iii. Location of limited information and hospitality development on north side of interchange

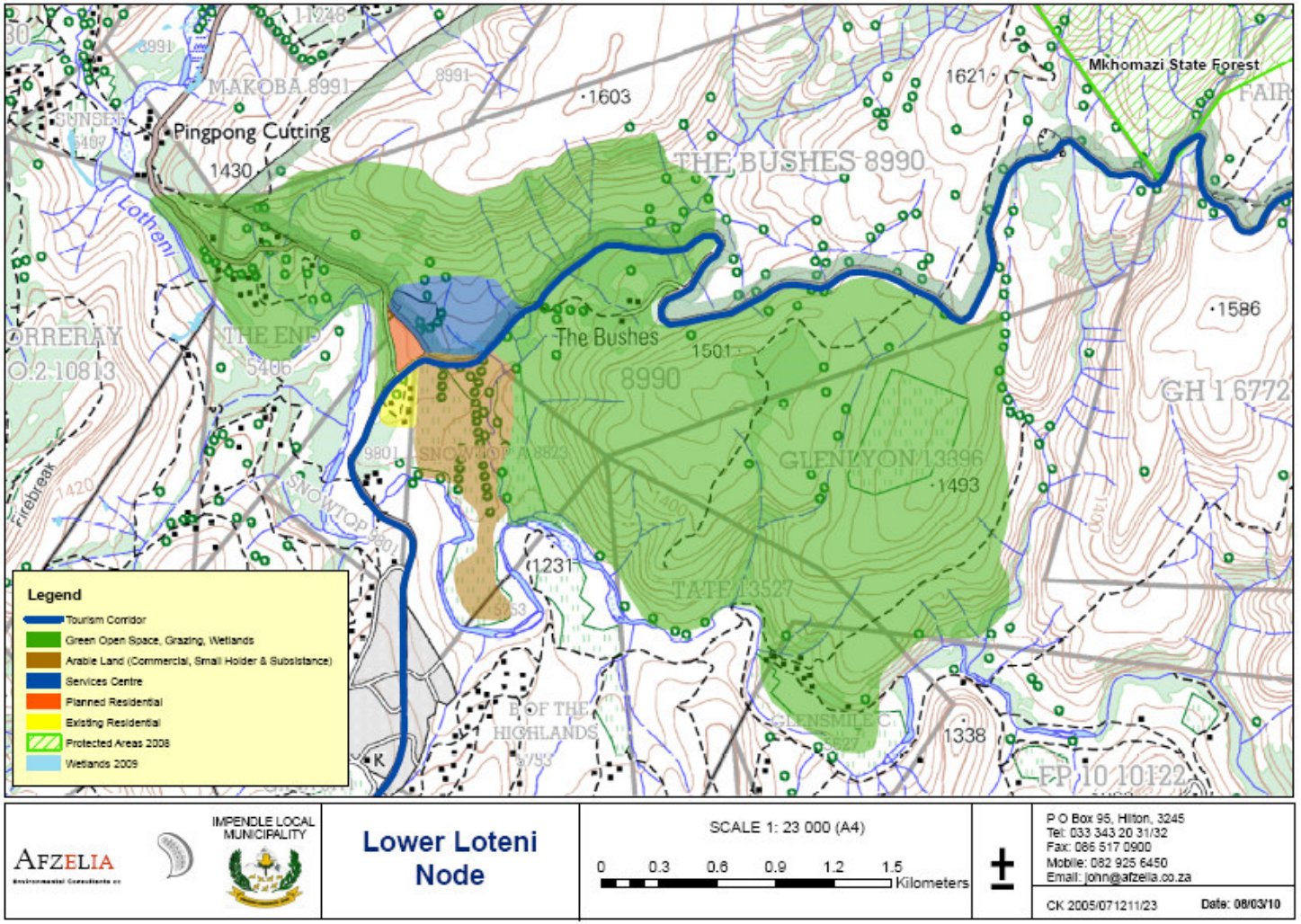
iv. Establish Lower Lotheni as centre of cultural heritage route along the foot of the mountains to Nottingham rd. Cultural heritage in terms of access to local communities (Stepmore, Mqatsheni etc), hiking trail and rock art

v. Provision in detailed planning for parking, arrivals and departures of tour busses and kombis

vi. Locate hospitality facilities and curio sales on west side of road along river with berg views

vii. Limited residential development identified for residents

Figure 39: Lower Lotheni node conceptual plan



Lower Lotheni Tourism node: Strategic Assessment

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	•	•	•	• Identify as mixed use hospitality with defined controls in Municipal LUMS • Limit residential development identified for employees of facilities • Ensure all agricultural land undisturbed • Provision for waste water, sewerage and waste treatment and disposal such that surface and groundwater are not polluted and it has no negative visual impact • Ensure all 'primeval' areas remain undisturbed
Socio-Economic	• Location on scenic route used to access Vergelegen and Lotheni Nature Reserves	• Low number of tourists currently using the route • Lower Lotheni not promoted as alternative route	• Commercial / community tourism activities impacting on the natural environment	• Identification of land for tourism development that will have minimize impact on natural environment • Establishing Lower Lotheni P27-2 intersection as a tourism support node
Environmental	• Negotiable areas (land is degraded, low contribution to conservation targets, not required for achieving provincial conservation targets) • Slopes < 12% • High / good potential agricultural land likely within close proximity of the node • Cultivated lands proximal to local and regional markets • Opportunities for agricultural processing and manufacturing • Limited servicing • Financial resources	• Non-negotiable areas ○ The Lower Lotheni Node is situated within a relatively sensitive area in terms of wetlands ○ The Lower Lotheni Node is situated within a relatively sensitive area in terms of vegetation types • The Node is situated within an area of relatively high water production on a Provincial and municipal scale • The Node is located within a River Corridor System • Overarching requirement of the municipality for provision of good quality water resources • Moderate levels of	• Wetlands are at risk of impacts from service centre development • The Node has the potential to impact on the production of good quality water important for provincial development • Over-stocking of grassland areas • Poor sanitation has the potential to impact on water resources • Potential visual and biodiversity impacts on UDPWHS	• Non-negotiable areas must be zoned for conservation, and managed for this purpose • Wetland areas must be buffered • The LUMS must take cognisance of the Non-negotiable areas; designation of the non-negotiable areas into a long term conservation land use • Activities linked to the natural resource base should be developed for agricultural areas and non-negotiable areas • New cultivation may only occur with consent from the Department of Agriculture • Cognisance must be taken of buffers to the Lotheni River in land set aside and zoned for arable agriculture • Agricultural lands within the node which are also required for meeting conservation targets must be stocked at conservation friendly stocking rates • Strict catchment management to ensure water quality is not impacted on negatively; protect against water pollution with all future development

	to manage areas designated for conservation	environmental awareness • Limited servicing • Overarching requirement to protect UDPWHS		
Governance	•	•	•	• Investigate land use management arrangements (system and structure) for Lower Lotheni • Identify strategy for implementation of land use management arrangments • Implementation : costs to be determined

5.2.3 Rural Areas

Rural Negotiable Areas

Statement of Intent / Spatial Concept

Negotiable Areas are ecological support areas that need to be maintained in a near natural and functional state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services.

- Near Natural - ecosystems and species largely intact and undisturbed
- Functional - ecosystems moderately disturbed but still able to maintain basic functionality; individual species may be disturbed (without impacting on Provincial conservation targets); these comprise areas that are important for the maintenance of ecosystem services and ecological functioning, regardless of the level of disturbance and degradation

It comprises an area that is vital to ecosystem processes. Maintaining an area in a near-natural and functional state can include biodiversity-compatible land uses and resource uses. Ecological Support Areas are areas that are not essential for meeting biodiversity targets but which nevertheless play an important role in supporting the ecological functioning of Non-Negotiable Areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The degree of restriction on land use and resource use in Negotiable Areas may be lower than that recommended for Non-Negotiable Areas.

Negotiable areas also include areas of rural settlement and agricultural activity (grazing and arable, subsistence and commercial). Figure ____ is a composite of all the data layers which were used in the compilation of the SDMP and hence provides a comprehensive spatial view of the location of negotiable and non-negotiable areas. In both negotiable and non-negotiable areas permitted and non-permitted uses will have to be identified, defined and implemented by the planning authority within the land use scheme.

Rural Negotiable Area : Strategic Assessment / Decision-Support Framework

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	• Well managed rural landscape can enhance tourism experience • Economic opportunities from rural tourism and from downstream activities from improvements in agricultural production	• Erosion in some areas has created severe degradation – costly in time and money to rehabilitate to point where the land can be used for agriculture, or can be restored to natural state • Large number of scattered, low density rural settlements in the Ingonyama Trust land and on private freehold land along the Impendle – Stepmore road – not in accordance with the Drakensberg policies as many are within the buffer zone	• Rural settlement areas in buffer zone • Rural settlement areas right up against the UDPWHS park boundary (Lotheni, Mqatsheni – Stepmore) • Livestock vs arable land in the Ntwasahlobo area – grazing on high value irrigable agricultural land near river	• Rural settlements o Density controls – maintain smallholding character o Settlement edge to be defined around existing settlement; i.o.w no further expansion o Mixed use – low impact with specific controls o Use of alternative technologies for servicing o Level of service issue – basic level only • Arable land o Define controls associated with arable land eg. slope constraints, contour banks, irrigation etc o Agricultural chemical use to be carefully regulated • Grazing land o Define controls; stocking rates/carrying capacity, rotation o f livestock (camps) o Veld management – grasslands / wetlands o Improving livestock quality – reduction in quantity • Management of Green open space o Management of green open space to avoid “tragedy of the commons” scenario o Define permitted and non-permitted uses o Rehabilitation measures to be implemented where erosion is severe
Socio-Economic	• Natural resource utilization by local communities • Use of area for grazing of livestock	• Already depleted natural resources as a result of over utilization and over-grazing of natural resources	• Between conservation targets and natural resource utilization	• Awareness development of sustainable use of natural resources

	• Opportunities for cultivation of land • Opportunities for use of previously used arable land			
Environmental	• Further transformation may take place in these areas, if it can be shown that losses can be offset elsewhere, and ecosystem processes are not impacted significantly • Conservation compatible land uses permitted • Low intensity sustainable nature-based activities • Sustainable extensive commercial and communal livestock production • Public / private conservation initiatives	• Not all of the natural asset in these areas is considered critical for achieving conservation targets, however specific biodiversity and ecosystem features within these areas must not be impacted on negatively to avoid unacceptable ecological and biodiversity impacts; termed conditional use areas. No further transformation may take place, unless the specific biodiversity and ecosystem features beholden to these areas are catered for adequately. • Livestock ranching at conservation-friendly stocking rates	• Some of the Negotiable areas are located on areas with high potential agricultural land; such areas were avoided wherever possible • Water abstraction programmes and plans; such areas were avoided wherever possible • The National and Provincial Ecological Corridor is aligned through the management area, impacting on large areas of the municipality	• Environmental Regulations and Agricultural Permits for cultivation • Compliance with Section 28 of NEMA; enforcement of NEMA Duty of Care • Ecological Reserve determinations in the event of water abstraction programmes and plans • Retention of corridor systems • EKZNW must be consulted should any further transformation be proposed • Appropriate livestock and game stocking densities (adhering to conservation friendly stocking rates) • Sustainable harvesting of biodiversity resources • Reduction in chemicals, nutrients, poisons, bacterial inputs, detergents and other pollutants • Erosion stabilisation and prevention • Reduction of landscape fragmentation • Rehabilitation of degraded aquatic and terrestrial habitat • Regular area inspections by authorities • Expansion programmes for priority faunal species • Maintenance of habitat requirements for faunal species • Protection of nesting and roosting sites • Employ recognised procedures as per Working Groups and EKZNW • Protection of forest edges from fire • Exclusion of domestic livestock from forests • Maintenance of ecotones • Reinstatement of vegetation cover to 30m from edge of wetland / riparian area if it has been cultivated
Governance	•	•	•	• Responsibility of proposed rural land use management structure • B

Non-negotiable areas

Statement of Intent / Spatial concept

The objectives of the plan are to:

- Ensure aquatic and terrestrial biodiversity targets are met at the local municipal level, taking into account Provincial targets;
- Conserve representative samples of biodiversity pattern;
- Conserve the ecological and evolutionary processes that allow biodiversity to persist over time; and

A Non-Negotiable Area is considered an area that is irreplaceable and highly significant, and needs to be maintained in a natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services.

- Natural - ecosystems and species largely intact and undisturbed (without impacting on Provincial conservation targets)

It comprises an area that is vital to ecosystem / species persistence (based on a biodiversity feature relative to its target). Maintaining an area in a natural state can include biodiversity-compatible land uses and resource uses.

The degree of restriction on land use and resource use in Non-Negotiable Areas is higher than that recommended for Negotiable Areas.

In non-negotiable areas there should be no settlements as this should essentially be wilderness or primeval areas, with only tourism or management related structures / buildings / centres within it. However, in Impendle, there are a number of exceptions, namely Stepmore-Mqatsheni. The object of the SDMP in alignment with the Drakensberg policy statements is to achieve long-term voluntary de-population of these areas in favour of the more centralized, better serviced nodes in the other management areas.

Rural Non-Negotiable Area: Strategic Assessment / Decision-Support Framework

Component	Opportunities	Constraints	Conflicts	Strategic Controls
Spatial	•	•	• Stepmore-Mqatsheni • Rural settlements within the non-negotiable areas	• Conditions around settlements located in non-negotiable areas o No further development spread or densification o No arable o Limited grazing within stocking rates and depending individual areas, in some cases, no grazing permitted o Control on all further development of infrastructure and

				services (controls to be defined) • Low impact tourism activities and facilities permitted with controls to be defined providing LED benefits to surrounding communities • Management Service facilities to be permitted with controls to be defined (eg. ranger outpost) • Penalties for transgression to be determined
Socio-Economic	• Tourism opportunities linked to formal conservation areas • Substantial adventure tourism opportunities to be exploited • Natural resource utilization by local communities	• EKZN focus on conservation • Impact of tourism on conservation areas • Accessibility of formal conservation areas • Individual opportunities not necessarily an attraction • Community access needed to natural resources in formal conservation areas	• Between economic exploitation and environmental conservation	• Appropriate eco-tourism development opportunities considered in close cooperation with Ezemvelo KZN Wildlife • Awareness development of economic opportunities linked to formal conservation
Environmental	• Further transformation may take place in these areas, if it can be shown that losses can be offset elsewhere, and biodiversity pattern and process is not impacted • Conservation targets may not be negatively impacted on • Conservation compatible land uses permitted • Low intensity sustainable nature-based activities • Sustainable	• All of the natural asset in these areas is considered critical for achieving conservation targets, and any further transformation would to a high probability render unacceptable biodiversity impacts. No further transformation may therefore take place in these areas, unless it can be shown that losses can be offset elsewhere, and biodiversity pattern and process is not impacted • Livestock ranching at conservation-friendly stocking rates	• Some of the Non-negotiable areas are located on areas with high potential agricultural land; such areas were avoided wherever possible • Water abstraction programmes and plans; such areas were avoided wherever possible	• EKZNW must be consulted should any further transformation be proposed • Ecological Reserve determinations in the event of water abstraction programmes and plans • Compliance with Section 28 of NEMA; enforcement of NEMA Duty of Care • Appropriate livestock and game stocking densities (adhering to conservation friendly stocking rates) • Zero tolerance of harvesting of biodiversity resources • Reduction in chemicals, nutrients, poisons, bacterial inputs, detergents and other pollutants • Erosion stabilisation and prevention • Reduction of landscape fragmentation • Rehabilitation of degraded aquatic and terrestrial habitat • Regular area inspections by authorities • Expansion programmes for priority faunal species • Maintenance of habitat requirements for faunal species • Protection of nesting and roosting sites • Vultures: protect nesting and roosting sites from any form of disturbance

	extensive commercial and communal livestock production • Public / private conservation initiatives			• Quality control of carcasses offered in vulture restaurants • Employ recognised procedures as per Working Groups and EKZNW • Protection of forest edges from fire • Exclusion of domestic livestock from forests • Maintenance of ecotones • Reinstatement of vegetation cover to 30m from edge of wetland / riparian area if it has been cultivated
Governance	•	•	•	• Responsibility for management of non-negotiable areas outside of proclaimed reserves is vested in the municipality and possibly outsourced to specialist agency

5.3 General implementation issues

The issues this section will deal with are:

- Spatial design concepts for nodal development
- Levels of services
- Alignment of IDP projects
- Environmental Planning
- Ingonyama Trust land: managing land use
- Ingonyama Trust land and privately owned land : consolidating land in the nodes

Levels of service

The investment in services and service levels for the residents of the municipality must support the objectives of the SDMP and ultimately, the Land Use Scheme. The following levels of service are proposed:

- Rural settlement : levels of service should align with the NSDP principles governing the provision of basic services (water, sanitation, electricity) in terms of the levels of affordability and sustainability (capital, operation and maintenance costs) by the municipality

- Defined nodes: levels of service should be RDP levels of service and above, again depending on affordability and sustainability from the point of view of the municipality.

Alignment of IDP projects

All proposed IDP projects must be tested against the SDMP and the LUMS to determine whether they can be located where requested (i.e. do they comply with the appropriate levels of service as provided for in the SDMP and the LUMS?). Through the IDP public participation process there will always be various community needs identified; the municipality needs to ensure that its response to these needs and requests is governed by the SDMP / LUMS. Acknowledgement must be made of projects and investment that has been done which does not comply with the SDMP and how this should be managed in future. In particular, the location of the proposed housing projects needs to be carefully assessed in the context of the SDMP. Over the next 3 financial years it is anticipated that the following will be spent on housing projects in Impendle:

Impendle village	:	R 14.789 million
Impendle Ward 1 (state land	:	R 6.8 million
Impendle Ward 1 (Ingonyama land)	:	R 8.873 million
Impendle Ward 2	:	R 14.789 million
Impendle Ward 3	:	R 14.789 million
Impendle Ward 4	:	R 14.789 million
KwaMahleka	:	R 5.221 million
Kwa Ndjobokazi	:	R 4.976 million
TOTAL	**:**	**R 85 030 million**.

This is a substantial investment in housing and associated infrastructure and it is critical that this investment is appropriate to the levels of service and compliant to the planning controls in terms of the SDF / LUMS. The KZN Rural Housing Manual's guidelines state clearly that rural housing must follow the provisions of the municipal SDF[34].

Environmental planning

The importance of the natural environment and making sure it is conserved has been a strong thread of this SDMP based not just on conservation, but also a very strong economic rationale. For this reason, it is proposed that there be a "driver" identified within the municipality that oversees environmental planning.

Ingonyama Trust Land: managing land use

Throughout the province it is generally difficult to manage and control land use within traditional authority areas as the *amakhosi* and their *izinduna* have traditionally allocated land and continue to do so. It has been difficult to exert municipal influence in these areas.

In terms of the new planning legislation (KZN PDA no 3 of 2008), municipalities are responsible for planning for effective land use management on a wall-to-wall basis in their municipalities. Consequently, the traditional council areas located in Impendle are subject to the conditions contained within the PDA and hence land use controls. This means that Traditional Council must now allocate lands in accordance with the SDF and the LUMS.

Ingonyama Trust and privately owned land: consolidating land in the nodes

With the exception of Boston, the remaining nodes all have a mix of Ingonyama Trust or traditionally managed land and privately owned land. It is therefore necessary for land within the node "urban edge" to be bought out from current owners, consolidated and set aside so that a proper node can be established without being held up by difficult land ownership issues (eg. absentee land owners and/or PTO holders). This can therefore become municipal land which is critical for land management and control, but also helps to create a land market which should facilitate commercial / business investment. The responsibility of the municipality is to provide the investment framework for investment by the private sector in realising the development opportunities in the nodes.

5.4 FINANCIAL CAPACITY

5.4.1 The Budget

The municipal budget currently totals R 32 753 514 for the 2009/10 financial year. This remains much the same for 2010/11 with a slight increase to R 34,485 million in the 2011/12 financial year. The bulk of that budget is sourced from the equitable share (39% of the budget rising to 53% of the budget). Very little (around 7%) comes from rates. The remainder comes from various other government grants and loans. The

[34] Project Preparation Trust of KZN, June 2005, Rural Housing Manual, Attachment 2, Guidelines to assist Municipalities in the preparation of municipal housing plans, funded by DBSA, p.

IDP does not indicate costs for the development planning function. In summary Impendle does not have the advantage of being able to generate a substantial internal revenue stream from its residents. It is rather grant dependent and consequently has limited internal revenue to subsidise development. In order to follow the notion of developmental local government what is required is innovative approaches to attracting external investment and at the same time to become involved in the process of exploring locational advantages. These could be used to generate alternative sources of revenue (eg carbon trading, wind energy, water resource trading etc).

Despite these limitations and given the fact that Impendle will form part of the Development Planning Shared Service they will be able to benefit, through this more cost-effective sharing of skills and resources, from a wider and more experienced skills pool within the District. Impendle's funding contributions to the DPSS system, which will be over and above its normal development planning operational expenses is as follows:

- Year 1 - R 49 250
- Year 2 - R 108 350
- Year 3 - R 178 778
- Year 4 - R 262 207

As the implementation of the PDA gets under way, provision is made for municipalities to set tariffs for the planning and development application process and hence there is potential for Impendle to generate some revenue to cover costs of planning and land use administration.

It is recognised that in the short-term, Impendle does not have the financial resources to implement this SDMP as demonstrated by the financial information. With the proposed re-demarcation accompanied by incremental implementation and marketing of the opportunities in Impendle, it is anticipated that this plan will become a reality over the longer term. A primary catalyst for this process will be the upgrading of the regional route, establishment of the management areas and realising the tourism and business potential.

5.4.2 Financial and other incentives – Ecosystem Goods & Services

There is a global move towards recognising that some areas (countries, regions, individual locations) are "disadvantaged" with respect to being able to develop their areas because they have legal or policy constraints, generally for environmental reasons. The concept of providing incentives to encourage development has long been practiced in South Africa (industrial decentralisation incentives that helped establish places such as Emnambithi and Mandeni). The concept of providing incentives to discourage development or to compensate other land owners / administrations for provision of an ecosystem service is less well known and/or practiced.

To motivate this argument for the resource value of the natural environment one needs to look at the types of services that the natural environment can provide. The Golders Associates report (p.11) documents seven ecosystem services packages or clusters:

- *Food security services – ensuring access to food;*
- *Water security services – assuring access to safe and adequate water;*
- *Energy security services – assuring access to cooking, lighting and heating energy;*

- *Security from disasters – reducing risks and severity of natural disasters;*
- *Recreation and tourism services – assuring access to recreation and tourism opportunities*
- *Natural and cultural heritage services – assuring access to natural and cultural heritage;*
- *New services markets – providing access to new emerging ecosystem services markets such as carbon and water security markets.*

The importance of this is clear from looking at the answers to the following questions: (Golders Associates, pp.11-12)

- *What would it cost the municipalities to supply all rural households with piped water?*
- *What would the costs to households be as a result of greater incidence of disease (medical costs, lost productivity costs) resulting from having to use polluted water?*
- *What would it cost the municipalities to supply all rural and urban households with reticulated sewerage systems? And what opportunity costs would this result in – that is, who would not get access to better services as municipal budgets are spent on sewage services?*
- *What would it cost rural households to build with only commercially available building materials?*
- *What would it cost rural households to replace fuel wood with paraffin or anthracite for cooking and heating?*
- *What would it cost the economy to have to generate all new jobs in only the manufacturing sector (while the cheaper jobs in tourism and agriculture would be forgone)?*
- *What would the costs be to rural and urban households if food production was not possible within the municipality?*
- *What would be the economic losses of not having Drakensberg tourism?*
- *What would the travel costs be for rural households to have to access alternative recreation facilities?*
- *What would the costs be of constructing and maintaining recreation facilities for the communities within these related municipalities?*
- *What would the costs be to the municipal economy of having access roads regularly flooded and bridges washed away? What would the loss of life be of unchecked annual floods?*

The costs of not having these services based on natural capital would run into the millions and would be unaffordable. Preserving our natural capital helps to reduce people's vulnerability in the face of natural and economic hardships/disasters. Biodiversity is essential to providing this kind of socio-ecological resilience.

The list of potential incentives that follows provides some idea of the benefits that could accrue to Impendle Municipality and its residents if they promote biodiversity and protect the natural capital within their area. However, to realise these benefits will require development of appropriate institutional and financial mechanisms which may appear complex and difficult to undertake. Part of this complexity lies in for example, the fact that although the source of the uMngeni is in Impendle, many of the tributaries of the uMngeni which all contribute water supply to the river, are found in other municipalities. The only way to resolve this is a clarion call for cooperative governance and establishing a cooperative entity which can receive monies from downstream users for the ecosystem goods and services and distribute to the affected municipalities according to agreed criteria. An obvious umbrella for such an entity is through the Catchment Management Agencies.

Potential incentives:

Incentives are "external factors that determine and influence production and consumption decisions of an economic entity (such as an individual, household or community)" (Golder Associates, p.5). These can be broadly split into direct and indirect incentives.

Rates rebates: In terms of the MPRA (Act no 6 of 2004) municipalities have the right to charge differential rates in terms of certain categories of land (section 8, (2) (a-r)). This will enable a municipality, for instance, to charge zero rates for protected areas (Ethekwini has given a 100% rates rebate to protected areas) and various percentages of rates rebates for landowners who contribute significantly to environmental protection. Municipalities can also eliminate perverse incentives such as excessive taxation of vacant land (p.5)

Direct financial incentives: the approximate value of an ecological service can be calculated for downstream users (eg. clean and plentiful water supply from the Umngeni River for Pietermaritzburg and Durban), and what this implies for protecting *x* number of hectares upstream. Those downstream municipalities should then pay a levy to upstream municipalities as in incentive to make sure that they manage their areas for maximum water production.

Direct non-financial incentives: training and provision of shared services.

Offset markets: eg. Large-scale land conversion transactions should offset any biodiversity loss (attract investment into restoration or management of natural assets in the buffer area)

Tax incentives: reward land owners and land managers who provide a public services through their management of biodiversity

Biodiversity markets: paying landowners to preserve biodiversity where there is high biodiversity value

Easements: Pay land owners for the development rights of the land to prevent incompatible land use (eg. leasing land from a landowner such as a tribal authority or Ingonyama Trust to protect the view shed). This is a practice used in the land reform process where in protected areas such as the Kruger Park the land restitution process restores land ownership, but land use rights remain with the conservation agency.

The methodology used in this pilot study of the Upper Thukela area was as follows:

- Step 1: identify the ecosystem goods and services supplied by the buffer zone
- Step 2: production of a draft environmental – economic incentive model
- Step 3: targeted stakeholder workshops
- Step 4: further development and refinement of the incentive model "Particular reference is made to embedding the incentive model within the immediate governing mechanisms within EKZNW, the …District Municipality and the …Local Municipalities, such as their SDFs and IDPs."
- Step 5: integrated workshop and finalisation of model.

A model has been developed in this pilot area[35] and it is recommended that this be used and/or adapted for Impendle. Essentially, the ecosystem services levels need to be estimated, and the number of service users identified.

In order to determine whether the concept of ecosystem goods and services can be applied to Impendle one needs to determine two things:

- What potential ecosystem goods / services does Impendle have?
- What ecosystem goods/services do communities /users downstream of Impendle need that may be affected negatively by the way in which Impendle manages its natural resources?

IMPENDLE: POTENTIAL ECOSYSTEM GOODS AND SERVICES	NEEDS OF DOWNSTREAM USERS
Source of uMngeni River Water Biodiversity: healthy vegetation cover prevents erosion Wind for on-grid power generation Agricultural resources	Water No siltation of rivers No alien invasives Additional tourism destinations – package Alternative clean and cost effective energy sources Food production

The next question to ask is which of these goods and services, when linked to the consumers," can leverage funding to pay for the management required to sustain their production and delivery"? (p.3)

Some of the difficulties in being able to leverage such funding come from what has been a fairly entrenched view that firstly, protected areas should rely on public expenditure and support for their preservation and that secondly, landowners have viewed environmental protection as a cost and therefore a threat to profitability. These views are changing. In South Africa, there has been a move towards trying to make protected areas more self-sustaining economically; in addition, many landowners have come to understand that sustaining elements of natural environment on farms, for instance, is of long-term benefit to them. However, these views are not universally held and the latter can be difficult to apply to communal areas where there is no individual land ownership and where traditional land use management structures and practices may have broken down.

Table 2: Examples of fiscal and other policy based incentives for sustaining ecosystem services

INCENTIVE	**POTENTIAL VALUE FOR SUSTAINING ECOSYSTEM SERVICES**
Use of tax deductions and credits to encourage investment in and purchase of ecosystem services	Provides economic incentive to manage ecosystems in ways that sustain services
Establish user fees for resources or services	Reduces waste of resource
Use taxes or other public funds to pay for the maintenance of regulating and cultural services	Creates economic incentive to supply services that do not normally have a market value

[35] Golder Associates, A Resource Economic Study to Identify Incentive Options to Secure the Buffer Zone of the uKhahlamba Drakensberg Park World Heritage Site. April 2010 - Draft

Reduce perverse subsidies	Removes incentive for intensive production of provisioning services at expense of other services
Set limits and establish trading systems for use of ecosystems and their services	Achieves more cost-effective improvements in ecosystem services than conventional regulatory approaches
Use procurement policies to focus demand on products and services that conserve ecosystem services	Creates incentives for suppliers to adopt approaches that are ecosystem friendly

Source: Ranganathan et al. (2008) (as described in Golders Associates, 2010)

Generally, policy based incentives are more difficult to implement as they require political viability, an appropriate legal framework which has authority and has the institutional capacity for effective implementation. Economic or market based incentives encourage landowners to take least-cost decisions that will in effect, help protect the environment.

Table 3: Examples of market-based mechanisms

Mechanism	**Potential value for sustaining ecosystem services**
Transfer payments	Specific use rights associated with property (land in particular) that produces environmental services.
Marketable Permit Systems	Marketable Permit Systems allow permits to be distributed in an economically efficient way generating a market for pollution credits
Product labeling	Environmentally conscious consumers may perceive greater value in "green" labeled products to non-labeled products
Voluntary Contractual Arrangements (VCAs)	These are contracts between producers and consumers of an environmental service in exchange for a resource, service or ecosystem. Such contracts benefit both parties through an exchange of responsibilities and rights without the need for formal regulation or definition of property rights over the environmental services concerned.

As Impendle forms only one area of the uMngeni and uMkomazi catchments, it would be difficult to apportion cost incentives or individual trade-offs with downstream users (eg. between Ethekwini and Impendle). There is however, a mechanism established through the National Water Act (no 36 of 1998) which could potentially be used to assist in brokering such incentive schemes that would help preserve these critical natural environments, but which would not disadvantage those communities living there.

This mechanism is the Catchment Management Agency (CMA) system which establishes various CMA's for groups of catchments in order to devolve water resource management to a local level and to involve local communities within the framework of a national water resource strategy. The governance structure of the CMAs is intended to balance the requirement to reflect the interests of various stakeholders (from mountain to sea) with the need to ensure the effective management of the catchment area.[36]. The prime function of the CMA is to investigate and advise on the protection, use, development, conservation, management and control of the water resources in its water management area. Furthermore, the CMA may "do anything

[36] Share-Net, November 1998, An overview of legislation relating to the provision of water supply services in KwaZulu-Natal, programme sponsored by the Danida Support Programme, KZN on behalf of the Department of Water Affairs and Forestry, in association with the Wildlife and Environment Society of SA, p.17

necessary to implement catchment management strategies within its water management area" [37]. This would seem to allow for an investigation into the funding of efforts to protect, use….manage etc. the water catchment areas.

Apparently, however, CMAs are not yet functioning effectively. For relatively poor rural municipalities in the UDPWHS buffer, it is still an avenue worth exploring – to develop a possible incentive scheme to help fund catchment management and channel funds raised through such a scheme through a CMA.

Other sources of funding Impendle should investigate, using the SDMP to motivate their case for additional funding to support various projects for implementation in terms of the SDMP could include the Development Bank of Southern Africa and tapping into international climate change funding sources.

5.5 PROJECTS

The table below outlines the projects that have emerged from the accessibility framework (SDF), the environmental framework (EMF) and the business/commercial framework (LED). They are separated out into their main components, and where appropriate, these are further defined by being policy based issues or practical projects. The budgets provided are indicative only and not cost estimates. The priorities show whether the projects should be considered in the short, medium or long term. The next section which discusses phasing policy highlights those critical projects from the short term priority list that need to be considered as the most important catalysts to make this SDMP operational.

5.5.1 General Projects per Framework

Table 4: List of SDMP projects per framework

	Accessibility Framework	SUB-COMPONENT	PRIORITY	INDICATIVE BUDGETS
	Policy			
1	Alignment of accessibility corridors with District and neighbouring local municipalities, especially with reference to the proposed change to primary or regional access corridor; confirming alignment of corridor with DoT and placing it in budget cycle	Regional accessibility & Alignment	Short	IGR – Liaison Operational budget
2	Route prioritization – to undertake appropriate upgrades only and getting it into the District and neighbouring provincial SDFs and in DoT plans	Regional accessibility	Short	Operational budget
	Projects			
3	Upgrading of P139 - Impendle to Dargle Upgrading of P127-2 Impendle to Stoffelton Upgrading of P127-2 Stoffelton to Underberg link	Regional Accessibility Corridor	Medium	@R 10 mill/km (90kms) R 900 million
4	Maintenance of P27-2 - Stepmore to Nottingham road	Tourism Corridor / Scenic route	Ongoing	@R 50 000/km (80kms) R 40 million
5	Improving local road network conditions to facilitate the use and sustainability of public transport (DOT and	Local access corridors	Long	@R 5 mill/km (60kms) R 30 million

[37] Ibid. p.17

	Municipality) P129 All weather access D1357 All weather access			
6	Establishment of trekking trail (Impendle section)	Eco-tourism corridors	Short - medium	@ R 2 000 / km
7	Establishment of food trees along routes	Corridors	Short	

	Land Use Framework	**SUB-COMPONENT**	**PRIORITY**	**INDICATIVE BUDGETS**
	Policy			
1	Investigate opportunities for excising land from Ingonyama Trust and consolidating privately held land for the development of nodes.	Secondary development nodes	Short	R 75 000
2	Study along with the node development to set policy for the municipality on provision of services in area outside of defined nodes in order to contain urban sprawl.	Rural settlement	Short	R 75 000
3	Ensure IDP projects comply with SDF – social infrastructure etc. Alignment implementation	Nodal development and alignment	Ongoing	Operational
4	Landscape character assessment project	Planning		R 250 000
5	Investigation into the status of the proposed dam site on the uMkhomazi River, and assessment of the implications for development for Impendle Municipality	Planning	Short	R 50 000
	Projects			
6	Nodal Development Plans/ precinct plans	Secondary Development Node	Short	@ R 100 000 per node R 500 000 total
7	Middle Income Housing Impendle Town	Primary Development Node	Short	R 5 million
8	Low Income Housing Impendle Town	Primary Development Node	Short	R 15 million
9	Development of the Impendle LUMS	Spatial planning	Short	R 250 000
10	Area based Plan for Land Reform (links back into housing plans)	Spatial planning	Short	R 100 000
10	Protection of High Value Agricultural Land	Settlement Edge	Short	R 75 000
11	Economic Value of Conservation Areas Protected	Settlement Edge	Medium	
12	World Heritage Site Buffer Zone implementation	Landscape & viewscape		

	Tourism Framework	**SUB-COMPONENT**	**PRIORITY**	**INDICATIVE BUDGETS**
	Projects			
1	Tourism Signposting for Impendle Municipality	Formal Conservation	Immediate	To be determined
2	Tourism Awareness Programme	Formal Conservation	Short	To be determined
3	Tourism Development Programme	Formal Conservation	Short	To be determined
4	Land Rehabilitation Programme scoping study	Environmental / Limited Grazing	Medium	To be determined
5	Impendle PWC Tourism Centre	Tourism Info Nodes	Immediate	To be determined
6	Support Expansion of Voluntourism Programme	Voluntourism	Immediate	To be determined
7	Support Hubs for Hiking / Biking Activities	Trekking Trail	Medium	To be determined
8	Develop Tourism Niche Markets	EKZNW Related	Medium	To be determined

		Opportunities		
9	Implementation of Guideline 6: Cultural Heritage Interpretation for Spatial Planning	Heritage	Medium	To be determined
10				

	Agricultural Framework	**SUB-COMPONENT**	**PRIORITY**	**INDICATIVE BUDGETS**
	Projects			
	Agricultural Massification Programme	Arable Land	Short	To be determined
	"Urban" Agriculture (small plot) Programme	Settlement Edge	Short	To be determined

	Business / Commercial framework	**SUB-COMPONENT**	**PRIORITY**	**INDICATIVE BUDGETS**
	Projects			
	Establishment of "Ring of Markets"	Local Income Circulation	Short	To be determined
	Attracting Alternative Retailers to Impendle (See note 1)	Primary Development Node	Immediate	To be determined
	Production Expansion Programme (see note 2)	Production	Short	To be determined

Note 1: Impendle has a number of existing retailers. However, it has been suggested that they charge high prices and in general do not provide a good service to the community. It is then further suggested that opportunities for other retailers, geared to serve the low income communities of Impendle, should be packaged and efforts made to attract such retailers to the area.

Note 2: In order to get local income circulation going, local levels of production will have to be increased. It is suggested that a programme aimed at supporting local production in general be established. Such a programme could potentially have a strong focus on providing capacity building, training, administration support, marketing support and a range of other business related skills. Over time attention should also be given the establishment of appropriate facilities, access to external markets etc.

	Environmental Framework	**SUB-COMPONENT**	**PRIORITY**	**INDICATIVE BUDGETS**
	Policy			
	Impendle / Ezemvelo KZN Wildlife Coordination Forum	Formal Conservation	Short	Operational
	Feasibility study and implementation of payment for ecosystem goods and services (i) Carbon credits (ii) Water provision	Financial sustainability	Medium term	R 75 000
	Projects			
	Expansion of Working for Water, Working for Fire, and Working for Wetlands programmes into the outlying areas of the municipality, in addition to areas where these projects are currently operating	Land rehabilitation	Short term	R 200 000
	Expansion of Oribi Working Group and Blue Swallow Working Group focus on securing important natural assets for these species	Biodiversity	Short term	Ongoing
	Land management, including veld management, soil conservation and erosion prevention, educational programs	Education, training, capacity building	Short term - ongoing	R 75 000
	Launch and environmental education programme in Impendle Schools – Eco-Schools Programme	Education, training, capacity building	Short-term	Link into existing programme
	Identification of birding routes through the	Eco-tourism	Short-	Link into existing

	municipality (Birdlife SA)		term	programme
	Nature-based tourism feasibility study for access into Impendle Nature Reserve, Voluntourism, and community conservation areas linking into existing protected areas, including the establishment of a tourism route integrating and building on the Sakabula Circuit, Midlands Meander Route, and Boston Beat.	Eco-tourism	Medium term	R 200 000

	Other	**SUB-COMPONENT**	**PRIORITY**	**INDICATIVE BUDGETS**
	Monitor Quality of Government Service Delivery	Primary Development Node	Ongoing	Operational

5.5.2 Projects for implementation of the management areas

Two sets of tables are included for each management area / node. One table lists environmental actions and associated impact assessments, where relevant. The other deals with the spatial, economic and governance projects include indicative budgets where available or relevant. Some of those listed are actions to be undertaken by government authorities.

Specific projects associated with budgets will still need to be extracted.

(a) RURAL NEGOTIABLE AREAS		
	Projects	**Indicative costs**
Socio-economic	• Working for Water projects • Working for Wetlands projects • Sustainable harvesting of natural resources	• R 400 000 over 2 years
Governance	• Establish rural management agencies / structures under auspices of municipality, between Traditional councils, Landowners' Associations, Farmers' Associations	• R 120 000
	Actions	**Impact Assessments**
Environmental	• Alien plant eradication (incl. private and Working for Water) • Wetland rehabilitation (incl. private and Working for Wetlands) • Appropriate burning regimes (incl. private and Working for Fire) • Incorporation into Protected Areas Network / Stewardship Programmes – based on detailed motivation • Payment for ecosystem services should be explored further • Community Conservation Programmes • Expansion of Crane Custodian Programme – in the event of updated distribution data • Employ recognised procedures as per Crane Foundation and EKZNW	• The spatial configuration has at a broad level protected ecosystem processes; the following have been adequately considered: (i) Conservation targets (ii) Ecosystem services (iii) Agricultural resources

	• Expansion of Oribi Custodian Programme – in the event of updated • Prevention of poaching • Exclusion of dogs in faunal priority areas • Provision of off-stream washing facilities in rural settlement areas • Upgrade of sanitation facilities in communal areas • Environmental Awareness Programmes • Environmental education re persecution of Vultures and other species	

(b) RURAL NON-NEGOTIABLE AREAS			
	Projects	**Who**	**Indicative cost**
Governance	Investigate management system for all land use in Nzinga Management Area including small holder production on ITB land	Municipality	R 30 000
	Identify implementation strategy for land use management system including establishment costs and training of staff to operate structure	Municipality & COGTA	R 20 000
	Proceed with implementation –costs to emanate from implementation strategy above : costs to be determined	Municipality & COGTA	R
	Actions	**Impact Assessment**	
Environmental	• Alien plant eradication (incl. private and Working for Water) • Wetland rehabilitation (incl. private and Working for Wetlands) • Appropriate burning regimes (incl. private and Working for Fire) • Incorporation into Protected Areas Network / Stewardship Programmes • Payment for ecosystem services should be explored further • Community Conservation Programmes • Expansion of Crane Custodian Programme • Employ recognised procedures as per Crane Foundation and EKZNW • Expansion of Oribi Custodian Programme • Prevention of poaching • Exclusion of dogs in faunal priority areas • Provision of off-stream washing facilities in rural settlement areas • Upgrade of sanitation facilities in communal areas • Environmental Awareness Programmes • Environmental education re persecution of Vultures and other species	• The spatial configuration has at a broad level protected critical biodiversity and ecosystem; the following have been adequately considered: (iv) Conservation targets (v) Ecosystem services (vi) Agricultural resources	

(c) NZINGA MANAGEMENT AREA			
	Projects	**Who**	**Indicative Cost**
Spatial	Preparation of land use plan for local Management Area	Municipality	R 80 000
	Prepare feasibility for on-grid services and associated capital investment	Municipality MIG	R 80 000
	Investigate tenure arrangements and excision of ITB land for node development and expansion	DRD&LA	R 25 000
	Feasibility studies for solid waste disposal, sewerage disposal (site and system) and cemetery site in Nzinga Management Area	Municipality MIG	R 80 000
	Investigate livestock domination of commonage and mechanisms required to release land for arable	Municipality	R 10 000
	Investigate and resolve issues surrounding un-used agricultural land in valley	Municipality	R 10 000
	Conduct soils survey and link to water availability for irrigation	DAEA&RD	R 50 000
	Prepare business plan for investment required to translate high value land into full agricultural production	DAEA&RD	R 50 000
Socio-economic	Establish local market place linked with enclosed facility that can also be used for community gatherings and other production activities	DEDT, ILM	R1 500 000
	Allocate serviced space for the future development of local processing facilities	ILM	
	Allocate serviced space for the future development of local retail and commercial facilities as activity in node strengthens	ILM	
	Actions	**Impact Assessment**	
Environmental	• Settlement areas forming part of the overall Management Area, but not included in the defined node, must not be permitted to grow • Preparation of land use plan for local Management Area • A detailed agricultural sustainability and hydrological investigation, and link to water availability for irrigation – identification of agricultural projects • Investigate livestock impacts on commonage; put in place ecological monitoring protocol • Quantify capital and skills investment required to use high value agricultural land • Conservation management plan for the non-negotiable areas; rehabilitation plans must be formulated to address any degradation within these areas; rehabilitation plans must be formulated to address any degradation within	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (vii) Conservation targets (viii) Ecosystem services (ix) Agricultural production	

	these areas • Environmental Awareness Training • Establishment of a local water management committee • Visual impact assessment in respect of the UDPWHS • Public – private partnerships (community conservation) opportunities in respect of areas zoned for conservation land use • Upgrade sanitation facilities • Projects related to Working for Water, Working for Wetlands, Working for Fire	

(d) **STEPMORE NODE**			
	Projects	**Who**	**Indicative cost**
Spatial	Prepare land use plan for Stepmore as part of the Stepmore-Mqatsheni Management Area	Municipality	R 80 000
	Investigate agricultural potential of land located in link area between Mqatsheni and Stepmore including water availability for irrigation	DAEA&RD	R 50 000
	Land ownership investigation with view to acquisition by Municipality for consolidation and governance	DRD&LR	R 20 000
	Geo-technical investigation of area for settlement & VIP construction	DHS	R 80 000
	Investigate mix of on and off-grid services and associated capital investment in bulk and reticulation water, electricity (hydro turbine on river) and waste disposal	Municipality	R 50 000
	Investigate and locate areas for densification and expansion within Stepmore on land less than 12% slope in close proximity to main road	Municipality	R 15 000
	Upgrade sub-standard VIPs in Stepmore (R 10 000 per unit for 400 units)	District WSA	R 4 000 000
	Develop operational plan for the utilisation of community facilities in Stepmore developed by the Department of Housing	ILM, DoH	R 100 000
	Establish local market place linked with enclosed facility (potentially DoH development) that can also be used for community gatherings and other production activities		R 1 500 000
Governance	Investigate land use administration for Stepmore accounting for private land ownership and Traditional Council on Ingonyama trust land	Municipality	R 30 000
	Identify implementation strategy for land use management system and possible structure including establishment costs and training of	Municipality & COGTA	R 20 000

	staff to operate structure		
	Proceed with implementation –costs to emanate from implementation strategy above : costs to be determined	Municipality & COGTA	R
	Actions	**Impact Assessments**	
Environmental	• Settlement areas forming part of the overall Management Area, but not included in the defined node, must not be permitted to grow • Preparation of land use plan for local Management Area; this must include the identification of offset areas for achieving vegetation targets • A detailed agricultural sustainability and hydrological investigation, and link to water availability for irrigation – identification of agricultural projects - Investigate agricultural potential of land located in link area between Mqatsheni and Stepmore • Establish water availability for irrigation development on land in 'link' area • Investigate livestock impacts on grazing lands; put in place ecological monitoring protocol • Quantify capital and skills investment required to use high value agricultural land • Conservation management plan for the non-negotiable areas; rehabilitation plans must be formulated to address any degradation within these areas • Environmental Awareness Training • Establishment of a local water management committee • Visual impact assessment in respect of the UDPWHS and Vergelegen Nature Reserve (to inform development areas) • Public – private partnerships (community conservation) opportunities in respect of areas zoned for conservation land use • Projects related to Working for Water, Working for Wetlands, Working for Fire • Upgrade sub-standard VIPs in Stepmore • Investigation into Protected Areas Expansion of Vergelegen Nature Reserve	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (i) Conservation targets (ii) Ecosystem services (iii) Agricultural production The proviso is that offset areas for vegetation targets are identified	

STEPMORE – MQATSHENI LINK			
	Projects	Who	Indicative cost
Spatial	Preparation of preliminary concept layout for residential areas	Municipality & DHS	R 25 000
	Investigate infrastructure and services provision for densification of sites and development of land for new sites	Municipality & MIG	R 20 000
	Investigate agricultural potential of land along river and establish water availability for irrigation	DAEA&RD	R 30 000
	Local economic development projects to be identified in the medium to long term	DED	R 15 000
Governance	Investigate land ownership for Municipal acquisition, consolidation and land use management	Municipality	R 20 000
	Investigate appropriate cross border land use management system (KwaSani in co-operation with Impendle) for link area as an integral part of Mqatsheni and Stepmore	Municipalities, DPSSs and COGTA	R 50 000
	Identify implementation strategy including establishment costs and training of staff to operate structure	Municipality & COGTA	R 20 000
	Proceed with implementation –costs to emanate from implementation strategy above : costs to be determined	Municipality & COGTA	R

MQATSHENI			
	Projects	**Who**	**Indicative costs**
Spatial	Internal labour based road upgrade and maintenance to improve access and limit erosion: 50kms at R 10 000 per km	Community based roads – Dept of Public Works	R 500,000
	VIP toilet provision based on geo-tech investigation concerning health and groundwater pollution (R10 000 per unit 400 units)	Dept Human Settlement	R 4 000 000
	Investigations into alternative technology options for energy, water, housing	Municipality, MIG & Project Preparation Trust	R 50 000
	Trekking & mountain bike trail construction and maintenance : R 5000 per km – 15kms	Public Works Programme	R 75 000
	Locating and implementing backpacker / hiking / accommodation facility on borders of EKZN Wildlife en route to Lower Lotheni overnight stop (a Community Tourism Centre (Mnweni Centre as example)	Dept. Economic Development	R 2 500 000

	Training hospitality staff, tour guides, food production, cultural heritage R 10 000 per person training costs. 10 trainees	Dept. Economic Development	R 500 000
	Investigating opportunities linked to fly fishing including the training of guides, issuing fly fishing concessions and other opportunities	Fly fishing associations, ILM, Community	R50 000
	Adventure sport opportunity identification (also relevant to Lower Lotheni)	ILM	R100 000
Governance	Establishing rules for land use administration with TC and community	Municipality & DPSS	R 50 000
	Training of Traditional Council in land use and governance issues : R 10 000 per person and 10 Councillors and Secretary	Municipality & COGTA	R 200 000
	Environmental education for Council and community R 10 000 per person with 10 people being trained	WESSA	R 100 000
	Formulate an implementation strategy for land use administration in Mqatsheni	Municipality & DPSS	R 15 000
	Implement land use system : costs to be determined		

STOFFELTON – NTWASAHLOBO			
	Projects	Who	Indicative costs
Spatial	Preparation of local area land use plan	Municipality & COGTA	R 80 000
	Geo-technical investigation for residential, commercial and small scale processing	DAEA&RD	R 80 000
	Upgrade link road between Stoffelton and Ntwasahlobo R 20 000 km and 5 kms	DOT	R 100 000
	Identify areas for internal densification	Municipality	R 20 000
	Identify areas for residential expansion	Municipality	
	Agricultural soils and hydrological investigation on old high value lands to establish potential for small holder development	DAEA&RD	R 50 000
	Land ownership investigation – tenure upgrade and land consolidation to open up land for arable, township development and livestock management	DRD&LA	R 80 000
	Identify alternative areas for livestock grazing (ie. Off lands with potential for arable)	DAEA&RD	R 15 000
	Investigate feasibility options for provision of bulk and reticulation services (water, sewerage, waste [dump and disposal system] and cemetery	Municipality & MIG	R 40 000
	Internal road upgrade and maintenance 10kms at R 5 000 per km	Municipality	R 50 000
Socio-economic	Establish local market place linked with enclosed facility that can also be used for community	DEDT, ILM	R 1 500 000

	gatherings and other production activities (possible initial focus on supporting existing livestock market)		
	Local level agri-processing facilities, for example local abattoir, packing, packaging, cold storage, milling and other facilities.	DEDT, DAEARD, IDC, dti, ILM	R300 000
Governance	Investigation into appropriate land use management system for the Management Area undertaken in conjunction with land owners, tenants and Traditional Council (only at Stoffelton)	Municipality, DPSS & COGTA	R 50 000
	Formulate and implementation strategy and associated costs for land use management system	Municipality and DPSS	R 15 000
	Implement governance structure : to be determined	GOGTA	R
	Actions	**Impact Assessments**	
Environmental	• Settlement areas forming part of the overall Management Area, but not included in the defined node, must not be permitted to grow • Preparation of land use plan for local Management Area; this must include the identification of offset areas for achieving vegetation targets • A detailed agricultural sustainability and hydrological investigation, and link to water availability for irrigation – identification of agricultural projects and review of old lands • Investigate livestock impacts on grazing lands; put in place ecological monitoring protocol • Quantify capital and skills investment required to use high value agricultural land • Conservation management plan for the non-negotiable areas; rehabilitation plans must be formulated to address any degradation within these areas • Environmental Awareness Training • Establishment of a local water management committee • Projects related to Working for Water, Working for Wetlands, Working for Fire • Investigate feasibility options for provision of bulk and reticulation services (water, sewerage, waste [dump and disposal system] and cemetery	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (i) Conservation targets (ii) Ecosystem services (iii) Agricultural production The proviso is that offset areas for vegetation targets are identified	

IMPENDLE			
	Projects	**Who**	**Indicative costs**
Spatial	Preparation of a LUMS for the Impendle	Municipality &	R 80 000

	Management Area detailing Impendle town	COGTA	
	Investigation into central area infrastructure upgrade (bulk water, sewer and treatment works, electrical, communications, roads, storm water)	Municipality and MIG	R 80 000
	Investigate regional refuse dump facility	Municipality & MIG	R 60 000
	Investigate feasibility of establishing refuse skips in settlements in the Management Area	Municipality and MIG	R 40 000
	Investigate the feasibility of establishing a cemetery for the management area	Municipality and COGTA	R30 000
	Preliminary layout and costing for the proposed residential, commercial and light industrial areas of Impendle	Municipality and COGTA	R 50 000
	Review of level of services in settlements surrounding Impendle town – potable water, roads, electricity, VIPs for sanitation,	Municipality & MIG	R 80 000
	Investigating acquisition of land surrounding Impendle town from the ITB to enable the expansion of the Impendle town	Municipality & ITB	R 50 000
	Investigation of constraints to effective small scale agricultural production on high value commonage land now fallow	DAEA&RD	R 30 000
	Quantify input requirements to establish small scale production units and downstream marketing opportunities	DAEA&RD	R 80 000
	Projects launched to eliminate alien vegetation and rehabilitate all wetlands and rivers areas in the management area. Two teams for 2 years	DAEA&RD	R 400 000
	Middle income housing project (50 units)	ILM, Dept of Housing, Private Developer	R 10 000 000
	Rental lock-up-and-go housing for government officials not permanently resident in Impendle	Dept of Housing, Government Departments	R 5 000 000
	Low income housing project (200 units initially)	ILM, Dept of Housing	R 10 000 000
Socio-economic	Facilitate establishment ATM facility in Impendle Town	ILM, financial institution of the ILM	
	Centrally located periodic market place established in Impendle Town linked to taxi rank and key government facilities	Dept of Economic Development	R 1 500 000
	Establishment of basic facilities for informal sector in commercial area of Impendle town	Dept of Economic Development	R 500 000
	Road signage for Impendle Town from major routes	ILM, DoT	R 75 000
	Develop tourism information and craft centre in unused public works cluster facility	Dept of Economic Development	R 750 000

	Facilitate improved commercial/retail service delivery through the establishment of a local business forum	ILM, local business	
	Facilitate the establishment of an Integrated Energy Centre in Impendle Town	ILM, Dept of Energy, Local entrepreneur	R 4 000 000
Governance	Investigate appropriate land use management arrangements for the Impendle Management Area being located on ITB land.	Development Planning Shared Service (DPSS)	R 25 000
	Investigate the most appropriate arrangements for land use management in Impendle town as it densifies, expands and takes on a new form and function over time	Development Planning Shared Service	R 25 000
	Formulate an implementation strategy and associated costs for land use management	Development Planning Shared Service	R 15 000
	Proceed with implementation of land use management system in the Impendle Management Area : costs to be determined	Municipality and DPSS	
	Actions	**Impact Assessments**	
Environmental	• Settlement areas forming part of the overall Management Area, but not included in the defined node, must not be permitted to grow • Preparation of land use plan for local Management Area • A detailed agricultural sustainability and hydrological investigation, and link to water availability for irrigation – identification of agricultural projects - Investigation of constraints to effective small scale agricultural production on high value commonage land now fallow • Investigate livestock impacts on commonage; put in place ecological monitoring protocol • Quantify capital and skills investment required to use high value agricultural land • Conservation management plan for the non-negotiable areas; rehabilitation plans must be formulated to address any degradation within these areas; rehabilitation plans must be formulated to address any degradation within these areas • Environmental Awareness Training • Establishment of a local water management committee • Public – private partnerships (community conservation) opportunities in respect of areas zoned for conservation land use • Projects related to Working for Water, Working	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (i) Conservation targets (ii) Ecosystem services (iii) Agricultural production	

	for Wetlands, Working for Fire • Central area infrastructure upgrade (bulk water, sewer, electrical, communications, roads, stormwater) • Provision of basic services in residential areas in settlements surrounding Impendle town – potable water, roads, electricity, VIPs for sanitation • Linkages to the Impendle Nature Reserve must be investigated • Investigation of stewardship potential in the Impendle Mountain management area	

BOSTON			
	Projects	**Who**	**Indicative costs**
Spatial	Feasibility into location of tourism gateway and associated facilities north of main road	DED	R 10 000
	Feasibility into location of tourism hospitality facility along river frontage south of main road	DED	R 10 000
	Investigate feasibility of upgrading filling station	DED	R 10 000
	Facilitate development of combined tourism hospitality and tourism information facility by the private sector	ILM, Private Sector	R 1 500 000
Governance	Set up defined land use controls in LUMS for Boston with community	Municipality and DPSS	R 15 000
	Identify an appropriate land use management system for development control at Boston	Municipality and DPSS	R 10 000
	Prepare implementation strategy for land use at Boston	Municipality and DPSS	R 10 000
	Implement land use management system at Boston : costs to be determined	Municipality and DPSS	
	Actions	**Impact Assessments**	
Environmental	• Preparation of land use plan for the Node • Put in place ecological monitoring protocol • Conservation management plan for the non-negotiable areas; rehabilitation plans must be formulated to address any degradation within these areas; rehabilitation plans must be formulated to address any degradation within these areas • Projects related to Working for Water, Working for Wetlands, Working for Fire	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (i) Conservation targets (ii) Ecosystem services (iii) Agricultural production	

NGQIYA AREA			
	Projects	**Who**	**Indicative costs**
Spatial	Ensure that Ngqiya land use zones and controls from Municipal LUMS are available and communicated with residents at Ngqiya	Municipality & DPSS	N/A
	Feasibility of construction of a package treatment plant for water purification	District WSA	R 15 000
	VIP upgrade (R10 000 100 units)	District WSA	R 1 000 000
	Investigate feasibility of upmarket tourism facility	DED	R 25 000
	Investigate feasibility of high value small holder agricultural production	DAEA&RD	R 30 000
Governance	Work with landowners and residents association in identifying an appropriate local structure to manage land allocation and land use	Municipality & DPSS	R 15 000
	Formulate an implementation strategy for land use at Ngqiya including training of development committee	Municipality & DPSS	R 10 000
	Implementation of land use system part of Municipal rural land use management framework : costs to be established	Municipality and DPSS	
	Actions	**Impact Assessments**	
Environmental	• Preparation of land use plan for the Node • Put in place ecological monitoring protocol • Projects related to Working for Water, Working for Wetlands, Working for Fire • Upgrade sub-standard VIPs	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (i) Ecosystem services (ii) Agricultural production	

LOWER LOTHENI			
	Projects	**Who**	**Indicative costs**
Spatial	Formulate development controls as part of LUMS for Municipality	Municipality and DPSS	R 15 000
	Geo-technical investigations to protect against pollution	Municipality	R 15 000
	Investigate alternative technology in terms of: energy, water, sanitation, transportation and construction	Municipality, MIG and Project Prep Trust	R 20 000
Socio-economic	Establish basic information and accommodation facility serving backpackers and tourists passing through the area on the heritage route		R 500 000
	Identify adventure tourism opportunities in Lower Lotheni area (link to initiative at Mqatsheni)		R30 000
	Investigating opportunities linked to fly fishing	Fly fishing	R50 000

	including the training of guides, issuing fly fishing concessions and other opportunities (link to Mqatsheni investigation)	associations, ILM, Community	
Governance	Investigate land use management arrangements (system and structure) for Lower Lotheni	Municipality & DPSS	R 15 000
	Identify strategy for implementation of land use management arrangments	Municipality & DPSS	R 10 000
	Implementation : costs to be determined	Municipality & DPSS	
	Actions	**Impact Assessments**	
Environmental	• Preparation of land use plan for the Node • Put in place ecological monitoring protocol • Conservation management plan for the non-negotiable areas; rehabilitation plans must be formulated to address any degradation within these areas; rehabilitation plans must be formulated to address any degradation within these areas • Projects related to Working for Water, Working for Wetlands, Working for Fire • Provision for waste water, sewerage and waste treatment and disposal such that surface and groundwater are not polluted • Visual impact assessment in respect of the UDPWHS • Investigation into Protected Areas Expansion north-eastwards towards Mkhomazi State Forest	• The spatial configuration has at a broad level protected the natural environment and natural resources to within acceptable limits of change; the following have been adequately catered for: (i) Conservation targets (ii) Ecosystem services (iii) Agricultural production	

Note: Re- resolution of land ownership issues to formalise the nodes

As a precondition to effective governance of these areas where there is a multiplicity of land ownership and no effective land use management taking place at the present time, land ownership needs to be rationalised.

The following set of actions should form the basis of rationalization of land ownership in these nodes and with it, the introduction of effective governance and land use management:

- Identify *de facto* landowners and their beneficiaries;
- Update claims to title by lineage beneficiaries;
- Resolve rights and claims to the land by tenants;
- Identify land owners willing to dispose of land;
- Clarify which land parcels could be sold;

- Municipality working with DLA (DRD&LR) should acquire the land for consolidation and township establishment

Relate these to a detailed land use plan of the area to ensure acquisition of land is 'tied' closely with a plan of future landuse.

5.6 PHASING STRATEGY – STRATEGIC PROJECTS

The list of projects does suggest short, medium and long term project priorities. However, there are some strategically important projects that are required to make the SDMP work effectively and sustainably. The projects identified in section 5.3 will be prioritized on the basis of the strategic phasing below in the final version of this report.

These projects are:

i. The **regional access corridor** is critical to bring Impendle onto the provincial accessibility grid. Improving this road link and creating an interprovincial corridor will give much more impetus to the tourism and business/commercial project development. As the nodes grow along this corridor, and are formalized, Impendle will have access to increased income through rates. Without the link, all these projects will take longer to realise and be more difficult to sustain.

   It is therefore a first priority that Impendle Municipal management meet with the district municipality and neighbouring district and local municipalities to come to agreement on alignment of corridors. The meeting should include representatives from the Department of Transport so that the issue is placed on the provincial agenda and budget cycle.

ii. The **design and development of the economic (commercial / eco-tourism /agriculture) and service nodes** is also critical. Without formalising these nodes, inappropriate settlement spread (urban rather than agricultural in function) will continue to take up valuable agricultural land, intrude into environmentally sensitive areas and create serious problems for service provision. A move must be made now to being to contain the spread of settlement in Impendle and create a firm division between the urban and rural landscapes and ensure that the wilderness landscapes are not compromised. For the development of the nodes, Impendle needs to draw up a Land Use Scheme for the municipality and through training and capacity building, gain buy in from all the departmental heads and staff, the councilors and the residents.

iii. The SDMP has confirmed that Impendle has a range of tourism assets but they are largely unknown or very underdeveloped. **Expanded tourism facilities** in the UDPWHS and buffer zone and in Impendle Forest will bring in more tourists and provide the kind of incentive for greater support of the principles and objectives of the SDMP.

iv. The **proposed dam site on the uMkhomazi River** will have a significant effect on the shape of development in Impendle. The status of this needs to be investigated so that planning can begin well advance to make sure that any developments around the dam support the principles of the SDMP and so that the dam becomes a positive multi-use asset for the municipality.

v. Finally, for the SDMP to work there needs to be a **communication and capacity building programme**. This has already been alluded to as part of a LUMS process, but as soon as the SDMP is accepted by Council, there needs to be a schedule of workshops and other capacity building mechanisms set up to obtain buy in from all stakeholders, from provincial and national departments to district and local municipal staff and councilors and form the communities themselves.

CHAPTER 6: MONITORING

6.1 MONITORING IMPLEMENTATION

Monitoring, in the context of these three plans (spatial, environmental and local economic development) involves measuring progress with implementation whilst at the same time dealing with the consequences and impacts of implementation at local, sub-regional and regional levels. The measurement is based on an annual review of progress with implementation by municipal officials with oversight by the public. The review should be based on the criteria identified in Chapter 4 and the policies in this report. These policies and criteria should in turn be reviewed and updated on an annual basis since progressive implementation will raise different demands in terms of performance. In terms of implementation the central aim is to ensure that the policies and principles contained in these plans are being used to guide the municipality in planning for the roll out of its development program. The aim is for these criteria to be used by municipal staff and the public as a 'tool' in monitoring the implementation of the different facets of the plans contained in these reports.

Monitoring impacts of the plans is more complex in that this is largely driven by the development application process, once the full LUMS is in place, and planning and development decisions are being informed by the planning frameworks. The object here is to progressively review and record developments taking place in the municipality as part of the PDA application process. Over a period of time trends will emerge revealing the real impact of the plans on the spatial, economic and environmental framework of the municipality. At one level, if the principles contained within the plans are applied to developments, then the effectiveness of the plans in achieving the development objectives of the municipality will be noted. At another level adherence to the spirit of the plans by developers and officials will be established. In both instances effective monitoring will enable adjustments to be made to accommodate impacts which are not necessarily appropriate or cannot be accommodated in the longer term.

In order to achieve effective monitoring three types are noted: (i) monitoring of application of policy guidelines; (ii) monitoring progress with implementation of the three plans measured in the form of projects and associated performance criteria; and (iii) monitoring impacts of the plans. These three levels of monitoring are inherent in the format outlined below. A further dimension inherent is the question of sustainability – this forms an integral part of the spatial and economic criteria since failure to recognize the critical role of the environment for the people of Impendle will lead to progressive degradation, impoverishment and economic decline.

A strategic view has been taken for monitoring of the SDF, LED and SEMP. This initially involves selection of only selected key criteria, mainly located in the policy realm. This strategy is designed to initially monitor only these key criteria as being indicative of effective application, implementation and impacts ((i-iii) above). In the initial stages overloading the monitoring framework will serve to destroy its value as a tool to enhance implementation. It is argued that as the plans are progressively implemented the project criteria listed in Chapter 4 can be updated and included as part of the monitoring process.

The strategic monitoring framework is outlined below:

Land Use:

Policy 1 : Accessibility

Goals: Integrating Impendle into the national, regional, sub-regional and local public transportation grid to optimize accessibility and the movement of goods and information into rural areas.

Objectives:

- Securing local, sub-regional and regional buy-in to the proposed public transport route alignment in accordance with PSEDS
- The progressive implementation of public transportation routes identified in the report at the 80, 40, 20 and 10km grids in accordance with Model 4 accessibility framework (Figure 18, Map 3)
- Linking the spatial framework to the public transportation grid such that it promotes inter-regional movement through the most settled areas of the municipality whilst drawing inappropriate development away from the sensitive areas
- Promoting improved access to the areas with good potential for productive agricultural development with access to local and sub-regional markets

Measurement:

- Securing funding and commitment for the implementation of the proposed routes identified in the spatial framework
- Progressive implementation of the nodes in the spatial framework accompanying roads upgrading
- Progressively introducing differentiated land use management 'piggy backing' on public transport route upgrades as the basis for the spatial framework.

Outcomes (intended and/or unintended):

- Gradual roll out of planned public transportation routes
- Progressive establishment of identified nodes and the roll out of the spatial framework
- Initial resistance by local leadership and people to conformance with the requirements of the SDF, LED and SEMP

Policy 2 : Application of the Land Use Management guidelines.

Goal: to achieve sustainable land use in a developmental context in Impendle with provision for land use zones and controls.

Objectives:

These are intended to ensure that:

- the wilderness landscapes maintain their character and function particularly in relation to the following:
  - areas of bio-diversity significance;
  - landscapes;
  - natural goods and services;
- the rural landscape maintains its rural character and function with specific reference to:
  - Rural settlement landscape:
  - Rural agricultural landscape;
- the urban landscape has a distinct character and function including:
  - definition of an "urban edge" around each of the nodes, allowing for future expansion, but seriously limited further urban sprawl;
  - identifying and promoting a differentiation in the functionality of each of the identified urban areas and nodes in the municipality
- the cross border alignment of land uses to enhance accessibility, local economic opportunity and sustainability as core development principles of this municipality.

Measurement in terms of objectives:

- number of development applications approved by the municipality which adhere to the above principles;
- establishing the local, sub-regional and regional trends and impacts associated with the application of the guidelines

Outcomes (intended and /or unintended):

- Containment of urban sprawl (intended);
- Ribbon development along access routes as opposed to concentrated nodal development (unintended).

Policy 3: Levels of Service and affordability:

Goal: levels of service should conform with national guidelines contained in the RDP and the NSDP, but they should also take into account local conditions and affordability by municipalities in terms of both implementation and operational efficiencies.

Objectives:

- Rural settlement : levels of service should align with the NSDP principles governing the provision of basic services in terms of the levels of affordability and sustainability (capital, operation and maintenance costs) by the municipality
- Defined nodes: levels of service should be RDP levels of service and above, again depending on affordability and sustainability from the point of view of the municipality.
- Level of service should serve to enforce the spatial framework generated in the SDF for the municipality ie. sparse settlement outside defined nodes, denser settlement in defined areas.

Measurement in terms of objectives:

- The municipality being able to both promote and sustain the provision of different levels of services and housing to all its constituents.

Outcomes (intended and unintended):

- The progressive development and densification of settlement in identified nodes with higher order services;
- Rural settlements attracting lower order services and accessibility with residential densities declining in these areas over generations;
- Continued demand for access to land for rural residential development despite national, provincial and local planning policies to the contrary.

Policy 4 : Nodal development in defined locations following spatial form

Goal: Promote the establishment of centres at defined interchanges on public transportation routes following spatial form outlines in Figures 21 and 22.

Objectives:

- Progressive movement of people and services into the nodes to take advantage of amenity available in these areas
- Urban sprawl contained within these nodes

Measurement in terms of objectives:

- Number of detailed plans completed for defined nodes/centres
- Acquisition of land for development
- Development following spatial principles contained in the SDF and LUMS

Outcomes as in Policy 2

Policy 5: Local economic development

Goal: Promoting sustainable local economic development

Objectives:

- The Municipality providing the spatial and economic framework within which private public partnerships are encouraged to take place;
- Encouraging generative (ie production based primary and secondary industry) as opposed to consumption based tertiary outlets where the majority of product is imported and the benefits are external to the local economy;
- Countering income leakage through following the Business Framework and rings of investment as indicated in Map 5;
- Encouraging a range of investment in areas set aside for these types of economic activities;
- Investment enhancing the natural assets of the municipality;
- Innovative investments and trading in goods and services (eg wind farms and energy export, water production and export).

Measurement in terms of objectives:

- Number of opportunities created for investment;
- Types and levels of investment taking place in the municipality;
- Reversal of the current income leakage taking place in the Municipality;
- Investment in line with the bio-diversity principles contained in the SEMP.

Outcomes (intended and unintended):

- Environmentally friendly developments taking place in appropriate locations in the municipality;
- Innovative investment attracted to the area dealing in ecosystems goods and services;
- Low level sustainable employment outcome.

Policy 6 : Planning Capacity

Goal: Ensure increasing levels of awareness and capacity in spatial planning

Objectives:

- Build planning capacity in the Municipality through participation in shared services
- Planners in turn to create a growing awareness among managers and political leadership of the principles underlying these plans and the importance of applying them in decision making processes.
- Creating awareness among the general public and involving them in both the preparation and monitoring of these plans

Measurement in terms of objectives:

- Spatial planning and statutory capacity among staff in the municipality over a period of three years
- Adherence to the SDF, LED, SEMP and IDP in terms of decision making concerning capital roll out and budgeting for operational expenditure
- Level of participation and involvement of civil society in the planning and mentoring process

Outcomes (intended and unintended):

- Progressive capacity building among municipal staff from shared services
- Awareness creation by staff of managers and political leadership
- Involvement of constituencies at ward level in the planning process
- Capacity transfer and awareness creation will be a very slow process subject to opposition due to vested interests in the status quo

Policy 7 : Participation:

Goal: Provide for a strong public participation process within the SDF and the LUMS

Objectives:

- Ensure public awareness of key issues in their areas
- Invest in public participation in the preparation and implementation of the spatial plans to hold the municipality accountable for sustainable development

Measurement in terms of objectives:

- Level of public awareness of the planning issues and the planning process being pursued in the Municipality
- Level of public participation in the monitoring process
- Level of response by the Municipality to public comment and opinion.

Outcomes (intended and unintended):

- Progressively informed public through informed participatory process

- Municipality recording and making use of public input into the planning and monitoring process.

Policy 8 : Collective projects

Goal : To optimize the development potential of the Municipality while safeguarding its natural assets.

The collective projects envisaged for the three plans in broad summary aim to achieve the following objectives:

- Improving access into and out of the Municipality through integration with national and provincial transportation plans (Policy 1 above);
- Promoting economic development within the framework of environmental sustainability in agriculture, industry, commerce, services provision and residential development within defined areas of the municipality;
- Spatially containing expansion of the built environment into defined nodal areas to encourage efficient services provision, the establishment of critical economic thresholds to promote local economic development and limit income leakage and to serve as the gateways for access to the different range of opportunities (tourism, agriculture etc) in the hinterland of the municipality;

Measurement in terms of objectives:

- Completion and implementation of the local nodal land use plans;
- Land acquisition and consolidation in the nodes;
- Attraction of investment into the nodes;
- Numbers of new fully serviced housing developments locating in defined nodal areas as opposed to isolated, inaccessible and poorly serviced developments;
- Establishment of a range of appropriate generative business opportunities in Impendle;
- Growth and expansion of the Midlands Meander, Sani Saunter and Boston Beat tourism destinations into the relatively unexplored areas of Impendle in the form of new hospitality facilities and adventure sport opportunities;
- Comparative improvement in the socio-economic status of residents of Impendle based on nationally accepted benchmark data for rural and urban areas of the municipality
- MIG investment in nodes relative to rural areas
- Number of new and innovative business applications received annually by the municipality;
- Ability of the municipality to effectively implement the SDF and LUMS in traditional council areas of the Municipality.

Outcomes (intended and unintended):

- The gradual transformation of the space economy of Impendle to reflect improved efficiency, accessibility and sustainability;

- Guarding against uncontrolled investment in areas which constitute the main assets of the Municipality (eg the Berg).

CHAPTER 7: CONCLUSIONS

7.1 CONCLUDING REMARKS

The following concluding remarks are noted for the SDMP for Impendle:

- As a key strategy to promote future growth and development, New York (state) is developing a 100 year transportation planning framework . As it comes on stream it will promote efficiency in the movement of people, goods and services. In the initial phases (40 years) this will involve major new subway development deep under the city. During the implementation of this phase a new 'out of the box' approach is being developed to supersede sub-ways and current above ground vehicular transport systems (BBC 20-03-10) for implementation in 70 years from now.

- Accepting the difference in context, scale etc Impendle as a Municipality also needs to define its 50 to 100 year investment strategy. The onus is on the Municipality to provide a spatial framework and supporting infrastructure that that serve to will attract the right kind of investment.

- The SDMP provides a 50 year spatial, economic and environmental framework with short, medium and long term strategies to pursue to achieve its objectives.

- Like NY the key to the future of Impendle lies in *accessibility.*

- The short, medium and long term objectives are summarised below:

  Short term involves:

  - Finalising the land use management system throughout Impendle but particularly fo the Management Areas
  - Completion of the road upgrade from Impendle to Himeville
  - Promoting small scale commercial agriculture in the identified areas
  - Establishing small scale tourism opportunities along the DMA-Impendle interface

  Medium term involves:

  - Establishing the Management Areas each with its own function and character
  - Unlocking land issues in each Management Area
  - Establishing local institutions for land administration in each Management Area
  - Providing the framework for investment in processing, retail and social services in the nodes within the management areas
  - Linking Management Areas to transportation routes

Long term involves:

- Implementation of the national through route from Eastern Cape to Pongola via Impendle
- Linking the main Management Areas to the national route
- Providing opportunities for investment in these nodes
- Promoting implementation of opportunities identified in earlier phases
- Re-enforcing the spatial framework and revising it where necessary to promote greater efficiency (like NY) and attractiveness for investment

ANNEXURE1: LAND USE & ECONOMIC ACTIVITY MATRIX

Taken from Assessment of Rural Human Settlements in KZN Report (Jan 07)

Table 1: Land Use and Economic Activity Matrix - KZN

Insert matrix here from the Assessment of Rural Human Settlements in KZN

Report for the PPDC (job number 191)

From p. 61 (Figure 6.8 – Land Use – Economic Activity matrix)

TABLE 2: Settlement distribution in terms of landuse-economic activity matrix

DISTRICT	Other	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL	%
Zululand	15	129	0	0	0	6	0	109	714	246	0	0	0	1219	11
Ilembe	0	0	132	22	0	75	0	0	65	421	0	0	0	715	7
Umzinyathi	0	0	0	0	0	8	9	0	1221	475	0	0	0	1713	16
Ethekweni	0	0	26	155	0	0	0	0	163	31	0	0	0	375	3
Ugu	0	1	15	0	59	0	349	491	0					915	9
Uthungulu	0	0	407	77	0	19	265	6	672	2	93	0		1541	14
Amajuba	2	0	0	19	0	87	0	0	0	99			27	234	2
Uthukela	0	45	0	0	0	145	30	75	203	71	0	0	50	619	6
Umgungundlovu	0	0	72	18	0	0	0	0	272	279	0	0	17	658	6
Sisonke	14	0	0	0	0	151	43	17	489	414	0	0	164	1292	12
Umkhanyakude	0	18	0	0	0	0	500	359	574	12	0	7	0	1470	14
PROVINCE	**31**	**193**	**652**	**291**	**59**	**491**	**1196**	**1057**	**4373**	**2050**	**93**	**7**	**258**	**10751**	**100**
Average	3	18	59	26	5	45	109	96	398	186	8	1	23	977	
%	0	2	6	3	1	5	11	10	41	19	1	0	2	100	

Table 3: Landuse & economic activity matrix

CODE	CHARACTERISTICS
	Land Use:
1	Metropolitan area

Table 2.4 : Codes

LAND USE CLASSIFICATION	TYPE	CODE
2,3,4,5-b,c,d	Type 1	Purple
2,3,5-c,d	Type 2	Light Blue

2	Service centre/node
3	Commercial farming area
4	Subsistence rural settlement
5	Conservation/sensitive areas
	Economic Activity:
A	Industry
B	Commerce
C	Agriculture (Commercial & subsistence)
D	Tourism

1,3,4-a,b,c,d	Type 3	Pink
1,3-c,d	Type 4	Dark Blue
2,3-a,b,c,d	Type 5	Red
3,4-c	Type 6	Yellow
5-d	Type 7	Light green
4-c	Type 8	White
3-c	Type 9	Khaki Green
2,4-c	Type 10	Brown
4,5-c,d	Type 11	Grey
3,5-c,d	Type 12	Dark Green

ANNEXURE 2 : NSDP PRINCIPLES

National Spatial Development Perspective - 2006

Principle 1:

Rapid economic growth that is sustained and inclusive is a prerequisite for the achievement of other policy objectives, among which poverty alleviation is key.

Principle 2:

Government has a constitutional obligation to provide basic services to all citizens (e.g. water, energy, health and educational facilities) wherever they reside.

Principle 3:

Beyond the constitutional obligation identified in Principle 2 above, government spending on fixed investment should be focused on localities of economic growth and/or economic potential, in order to gear up private-sector investment, stimulate sustainable economic activities and create long-term employment opportunities.

Principle 4:

Efforts to address past and current social inequalities should focus on people, not places. In localities where there are both high levels of poverty and demonstrated economic potential, this could include fixed capital investment beyond basic services to exploit the potential of those localities. In localities with low demonstrated economic potential, government should, beyond the provision of basic services, concentrate primarily on human capital development by providing education and training, social transfers such as grants and poverty-relief programmes. It should also reduce migration costs by providing labour-market intelligence to give people better information, opportunities and capabilities, to enable them to gravitate - if they choose to - to localities that are more likely to provide sustainable employment and economic opportunities.

Principle 5:

In order to overcome the spatial distortions of apartheid, future settlement and economic development opportunities should be channeled into activity corridors and nodes that are adjacent to or that link the main growth centres. Infrastructure investment should primarily support localities that will become major growth nodes in South Africa and the SADC region to create regional gateways to the global economy.

The NSDP principles are specifically aimed at focusing government action and investment, avoiding the so-called 'watering-can'-approach and at enabling the developmental State to achieve maximum social and economic impact within the context of limited resources.

While focusing government economic infrastructure spending in areas with some potential for economic development may seem to exclude many other areas from development, this is in fact not the case. Different regions have different economic potential and the spatial variations in the incidence of poverty are also vastly different.

The NSDP argues that these diverse and disparate spatial contexts suggests a policy approach which itself should be differentiated and conducive to the requirements of the different contexts. Hence, in areas of low or no economic potential, the path of development and poverty reduction should be through a focus on investment in human capital development (education, training, social welfare, sound rural development planning, aggressive land and agrarian reform and the expansion of agricultural extension services, etc.). The Indian state of Kerala as well as Chile and Tunisia provide striking examples of the effect of this approach on poverty reduction and on overall human development in the so-called 'shadow' areas or areas with low potential.

The NSDP and its principles are also designed to act as a guide for policy coordination with emphasis on the spatial and economic implications of development policy and programmes of national, provincial and local government. South Africa has three spheres of government that are distinct and interrelated. Achieving policy coherence and coordination within such a context is complex. It is intended that the implementation of the strategies of different agencies and spheres of government be monitored in accordance with NSDP principles. In this sense, the NSDP principles are also seen as contributing to:

- The principle of cooperative governance; and
- The achievement of sustainable human settlements and of robust local economies within the framework of sustainable development.

ANNEXURE 3: COOPERATIVE MANAGEMENT: WHS LANDSCAPE BUFFER ZONE

Designation

The uKhahlamba Drakensberg Park World Heritage Site, which is situated west of Impendle municipality, was designated by UNESCO as a World Heritage Site in November 2002.

In terms of the World Heritage Convention Act No. 49 of 1999 (Gazette No. 31220: Notice 741 of 11 July 2008) the KwaZulu-Natal Nature Conservation Board was appointed by the Minister as the Management Authority for uKhahlamba Drakensberg Park World Heritage Site. The Board's implementing agency is KZN Nature Conservation Service, generally known as Ezemvelo KZN Wildlife (EKZNW).

One of the requirements associated with the declaration of the Park as a World Heritage Site was that a "Buffer Zone" be established. Section 28(2)(a) of the National Environmental Management: Protected Areas Act 57 of 2003 makes provision for the establishment of such a buffer zone.

Because of the proximity of Impendle to the Park, the municipality potentially falls within the proposed buffer zone.

Approach to demarcation of a buffer zone

An approach to the demarcation of the buffer zone is set out in Forster's (2007) report to the Buffer Zone Technical Committee. The following aspects of the report are pertinent.

The buffer zone involves both conservation and developmental purposes. First, it builds upon the conservation values that underpin the World Heritage Site – it seeks to support the purpose of the Park and to extend those values into the Park's setting by appropriate management of the buffer zone. Second, it seeks to assist adjacent communities to secure appropriate and sustainable benefits from the Park and buffer zone itself.

Forster's (2007) report indicates that the following five objectives will determine a composite buffer zone for the World Heritage Site:

Landscape character

- Tourism economy
- Biodiversity
- Water
- Wilderness protection

Demarcation of a landscape character buffer zone

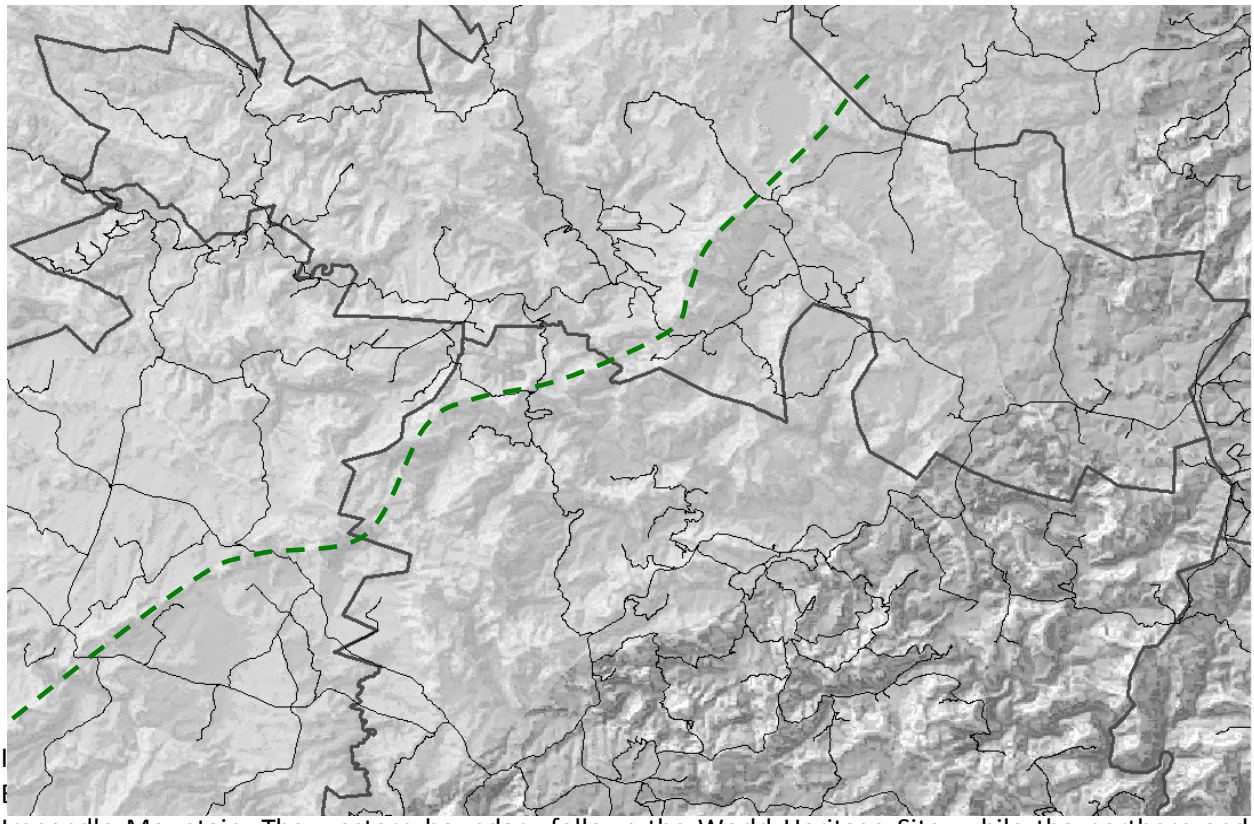
This approach results in objectives for the buffer zone, of which the following landscape character objective is given:

> *Protect, enhance and restore the unique and memorable character –the sense of place- that underpins the image of the Ukhahlamba-Drakensberg Park World Heritage Site and its approaches.*

UNESCOs Operational Guidelines for World Heritage Sites inform the way that the landscape character objective is put into operation. Therefore the following areas are considered for inclusion in the demarcation of the landscape buffer (see Forster 2007):

- Areas with attributes associated with the 'least modified' part of the environmental modification spectrum outside of the World Heritage Site e.g. areas most tranquil, remote, wild, inaccessible, or natural.
- Landscape character areas identical and similar to those of the WHS.
- Landscape character areas of high conservation value e.g. unmodified landscapes; areas of outstanding scenic beauty and visual quality; rare and representative landscapes; areas supporting conservation interests and special associations.
- Landscape character support areas e.g. areas of difficult infrastructure penetration; compatible land use.
- Visual character support areas e.g. visual impact zones linked to the WHS (Clarens sandstone).

THE WHS LANDSCAPE BUFFER ZONE IN IMPENDLE



Impendle Mountain. The western boundary follows the World Heritage Site, while the northern and southern boundaries follow the municipal boundary.

Therefore, the land within the landscape buffer zone is mostly within foreground or midground view of the World Heritage Site – character of this buffer zone is strongly influenced by the Park and conversely, the character of the Park is strongly influenced by that of its setting. Therefore, appropriate management of the landscape character of the buffer zone supports the World Heritage Site.

Demarcation of a tourism economy buffer zone

The objective of the tourism economy is:

Promote broad based and sustainable economic activity.

Essentially, the tourism economy buffer zone will encompass an area that is broad enough to contain the tourism corridor (DTLGA 2006). The development of this concept is set out elsewhere in this SDF.

Management of the World Heritage Site buffer zone

In terms of the World Heritage Convention Act, the Park Authority, represented by KZN Wildlife, is an organ of state that must be consulted with respect to Impendle policies, statutory instruments and applications, including the following:

- Rates policy with respect to land categorized as protected areas (Sec. 8(2)(o) of Local Government: Municipal Property Rates Act, 2004 (Act No. 6 of 2004));
- Spatial development frameworks and integrated development plans (Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000));
- Schemes (KwaZulu-Natal Planning and Development Act, 2008 (Act No. 6 of 2008));
- Applications for development and subdivision of land.

Comments from KZN Wildlife on matters relating to development planning and management are material considerations in municipal decision-making.

In order to promote cooperative governance, by the end of June 2010 Impendle municipality will enter into a *protocol of co-operation* for the management of the buffer zone with the Park Authority.

The protocol *of co-operation* concerns the abovementioned objectives for the buffer zone that are set out in Forster's (2007) report.

The protocol *of co-operation* includes technical assistance from KZN Wildlife.

The *protocol of co-operation* includes financial assistance from KZN Wildlife in sourcing funds for buffer zone management: for example, determining landscape character capacity of the buffer zone for tourism; the extension of the Giants Cup hiking trail (e.g. in support of areas under communal tenure); and landscape character enhancement projects under public works programmes.

References

DLGTA. 2006. *Discussion Paper: Proposed Tourist Corridor in Ukhahlamba-Drakensberrg – Trans-Maloti Trekking Trail.* Spatial Planning, Department of Local Government and Traditional Affairs, KwaZulu-

Natal, Pietermaritzburg. http://devplan.kzntl.gov.za/General/Documents/2009Jul3/web_061214_TRAIL DISCUSSION PAPER.pdf

Forster, C.W. 2007. *SPECIFICATIONS AND METHODOLOGY for the ESTABLISHMENT OF THE BUFFER ZONE to the UKHAHLAMBA DRAKENSBERG WORLD HERITAGE SITE PARK.* Draft final report for KZN Wildlife. Pietermarizburg.